Sex Education for Individuals Who Have a Developmental Disability: The Need for Assessment

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Abstract

This study was an evaluation of the sexual knowledge of individuals who have a developmental disability and the effect of sex education. This was also a pilot study involving the evaluation of the Socio-Sexual Knowledge and Attitudes Assessment Tool (SSKAAT; Griffiths & Lunsky, in press). This tool is a revised version of the Socio-Sexual Knowledge and Attitudes Test (SSKAT; Wish, Fiechtl McCombs, & Edmonson, 1980). Thirty-two individuals participated in the study (20 males and 12 females), who were receiving supports from local community agencies. Participants were assessed using the SSKAAT and SSKAT in an initial assessment and in a 6-week follow-up. Sixteen participants received a 6-week sex education program, *Life Horizons I and II* (Kempton & Stanfield, 1988a, 1988b), between the assessments, while 16 participants served as a control group. It was found that sex education was successful at increasing knowledge regarding sexuality, as demonstrated by increased scores on both the SSKAT and SSKAAT. However, the current study did not demonstrate any significant effect of gender on knowledge about sexuality. It was also found that IQ did not have a significant effect on knowledge regarding sexuality. The present study found the SSKAAT to be very reliable, with test-retest reliabilities ranging from .87 to .99. This appeared to be an improvement over the original SSKAT, whose reliability ranged from .72 to .90. Furthermore, the revised SSKAAT was found to provide a much more in-depth assessment of sexual knowledge and attitudes for individuals who have a developmental disability.

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CHAPTER ONE: THE PROBLEM

Introduction

This is a study of the sexuality knowledge of individuals who have a developmental disability. In this study, it is the intent to facilitate a sexuality education programme for individuals who have a developmental disability. Prior to and following this programme, participants will be assessed according to their levels of knowledge regarding sexuality.

Furthermore, this is a pilot study involving the evaluation of the Socio-Sexual Knowledge and Attitudes Assessment Tool (SSKAAT-R; Griffiths & Lunsky, in press). This tool is a revised version of the Socio-Sexual Knowledge and Attitudes Test (SSKAT; Wish, Fiechtl McCombs, & Edmonson, 1980). Participants will be assessed using both measures and results will be compared.

Definition of Developmental Disability

The definition of developmental disability has undergone many changes, some driven by medical and other research advances, and others driven by advocacy and policy revision (Owen & MacFarland, in press). The term "developmental disability" is one that is employed in Canada, as is the term "intellectual disability." Confusion continues with the use of the term "learning disability," which is employed in the United Kingdom to mean the same thing, but carries a very different meaning in Ontario.

For the purposes of this thesis, the term developmental disability will be used throughout. Yet, it is important to note that this term is synonymous with "intellectual disability." The Canadian Association for Community Living (CACL) definition will be used, which defines an intellectual disability as "... an impaired ability to learn. It

sometimes causes difficulty in coping with the demands of daily life. It is a condition which is usually present from birth, and it is not the same as mental or psychiatric illness" (Canadian Association for Community Living, 2000, p. 2).

Background of the Problem

Historically, individuals who have a developmental disability have been denied the right to express their sexuality. Consequently, they have not received sex education. According to Griffiths (1999), this is due to society's attitudes toward the sexuality of individuals who have a developmental disability. Griffiths (1999) states that there are seven "mythconceptions" about the sexuality of individuals who have a developmental disability. These include:

1. **People with developmental disabilities are eternal children and asexual.**

This is a common belief; however, most individuals who have developmental disabilities develop their secondary sexual characteristics at about the same rate as people who do not have disabilities. Nevertheless, individuals may vary in their rate of development, especially individuals with certain genetic or endocrine dysfunction. Moreover, most individuals who have a developmental disability have sexual feelings and respond sexually to the same kinds of things as do individuals who do not have a disability (Griffiths, 1999).

2. **People with developmental disabilities need to live in environments that restrict and inhibit their sexuality to protect themselves and others.**

This is a widely held belief by many people in our society. However, individuals who have developmental disabilities need to live in environments that provide the types of learning about one's sexuality that are generally taught in our culture. Like individuals

who do not have a disability, individuals who have developmental disabilities benefit from an environment that models and teaches personal, moral, social, and legal responsibility regarding sexuality (Griffiths, 1999).

3. **People with developmental disabilities should not be provided with sex education as it will only encourage inappropriate behaviour.**

This is a common misconception, but according to Griffiths (1999), individuals with developmental disabilities require socio-sexual education for three reasons:

- Socio-sexual education helps individuals to understand their changing bodies and feelings and gives knowledge and guidance necessary to learn
- There appears to be a relationship between socio-sexual education and reduced incidence of abuse
- Socio-sexual education provides, for people who may be demonstrating inappropriate sexual behaviour, knowledge and skills to replace their current inappropriate sexual expression with sexual behaviour that is more culturally appropriate and responsible. (p. 446)

4. **People with developmental disabilities should be sterilized because they will give birth to children who are also disabled.**

This has been a historic trend since the Eugenics movement of 1880-1940 (Kempton & Kahn, 1991). However, individuals who have developmental disabilities are unlikely to give birth to children with disabilities, unless there is a genetic cause for the disability (Griffiths, 1999). The reality is that 85% of adult disability is caused after the age of 13, and more than 90% of infant disability is due to social and not genetic causes (Rioux, 1996). Thus, most people with developmental disabilities do not acquire their disability

because of a known genetic abnormality. It should also be noted that the nature of the disabling condition, for some people with developmental disabilities, is such that they can never procreate (Griffiths, 1999).

5. **People with developmental disabilities are sexually different than other people and are more likely to develop diverse, unusual, or deviant sexual behaviour.**

It has often been assumed that individuals who have a developmental disability have deviant sexual interests, but the sexual development of people with developmental disabilities can be affected by many factors. These include a lack of sexual education, deprivation of peer group interactions, family restriction on activities, lack of social exposure, and even a lack of motor co-ordination (Griffiths, 1999). Furthermore, individuals who have developmental disabilities do not develop any more sexually inappropriate behaviour than the general population if they have normal opportunities to learn about their sexuality.

6. **People with developmental disabilities are over-sexed, promiscuous, sexually indiscriminate, and dangerous, and you have to watch your children around them.**

This is a blatant misconception. Individuals who have developmental disabilities may be somewhat over represented in the population of people who are convicted of sexual offenses. However, this may be because they are more likely to get caught, confess, and waive their rights. When individuals who have developmental disabilities act inappropriately in a sexual way, it is often less serious (e.g., public masturbation) than offenses committed by nondisabled persons. Some clinicians have suggested that sexual deviance may be less common in this population than among people who are nondisabled

(Griffiths, 1999). Moreover, individuals who have developmental disabilities are more likely to be the victims of sexual offenses rather than to be the victimizers (Sobsey, 1994).

7. **People with developmental disabilities cannot benefit from sexual counselling or treatment.**

This is a common belief, but there is a growing body of literature that has demonstrated that people who have developmental disabilities can benefit from treatment or intervention directed at: a) sexual abuse counselling or b) teaching appropriate socio-sexual behaviour to replace sexually inappropriate behaviour (Griffiths, 1999).

Statement of Problem Situation

The present study will take place in the Niagara region. Participants in the study will be individuals who have developmental disabilities who are supported by local community agencies.

Purpose of the Study

The purpose of the study is to find accurate data on the sexual knowledge and needs of individuals who have a developmental disability across this broad range of areas. These data will be collected before and after a sex education programme to determine if there is a change in knowledge after education. It is the intention to evaluate knowledge regarding sexuality and to improve the attitudes toward sexuality of individuals who have a developmental disability.

Another purpose of the study is to determine if the SSKAAT-R is representative of sexuality issues in the year 2001. The original SSKAT is a measure that is widely used for assessing the sexual knowledge and attitudes of individuals who have a

developmental disability, but it was created in 1979 and is therefore quite old. Many of the photographs and topics are not representative of the concerns of today regarding sexuality. Furthermore, the SSKAT has been criticized for being time-consuming, requiring a high level of skill to administer, and being overly complicated in parts, but not exhaustive in others. These critiques will be further developed in Chapter 2.

Research Questions and Objectives

There are several research questions that will be addressed in this study.

1. Is there a change in the levels of knowledge of participants following a sexuality education programme?
2. Are scores on the Stoelting Brief Nonverbal Intelligence Test (S-Bit) correlated with scores on the SSKAT or SSKAAT-R?
3. Are there gender differences in scores on the SSKAT and SSKAAT-R before or after sex education?
4. How does the SSKAAT-R compare with its predecessor (SSKAT)?

Rationale

According to Kempton (1993), there are several goals of sex education for individuals who have developmental disabilities. These include:

- To provide accurate information about sexuality
- To help them learn about their bodies, which should help them see just how much we are all alike; this generates self-confidence, which in turn, heightens self-esteem
- To teach how to avoid situations where they might be sexually exploited and how to cope if victimized

- To teach social skills that should prevent inappropriate, socially unacceptable, or illegal sexual behaviour
- To help them find the best sexual expression to fit their abilities and needs, thereby enriching their lives
- To make it physically possible to them to enjoy the company of both sexes through social programmes and to help them acquire the necessary social skills to be successful in all settings
- To teach the responsibilities of being a sexual person, appropriate sexual behaviour, customary social patterns and how to avoid STDs, especially AIDS
- To offer information about, and help with, birth control
- To help them achieve some insight into the commitments of marriage, parenthood, and family, so that realistic goals for their future may be set
- To help improve their ability to communicate about sexuality without unnecessary guilt and embarrassment
- To pay them the same respect we do to the rest of the population by helping them identify or clarify their attitudes and beliefs about many aspects of sexuality. (p. 72)

Importance of the Study

Social skills, body image, self-esteem, and personal integrity are central to one's ability to enjoy life and to participate in the development of relationships and intimate behaviour (Cole & Cole, 1993). However, according to Whitehouse and McCabe (1997), the real challenge is to assist individuals who have a developmental disability to gain a sense of sexual identity whether that is as a part of a heterosexual or homosexual relationship, or being a sexual entity without a partner. In order to do this, educators

must first develop a sense of what the actual sexual needs and experiences are of individuals who have a developmental disability. Only then can we have a valid base from which to construct the curriculum to address the needs of these individuals. Then, programmes can be tailored to address these needs, rather than imposing the values of the nondisabled culture on individuals who have a developmental disability.

There have been few empirical studies completed on socio-sexual knowledge and attitudes of individuals who have a developmental disability in recent years. There is no evidence as to which clients, if any, do not benefit from sex education; and at a very simple level, there is little evidence that clients learn anything from a sex education course (Lindsay, Billshaw, Culross, Staines, & Michie, 1992). It is important to know what people with developmental disabilities understand about this topic as well as how they differ in cognitive level and residential setting. Also, in order for good evaluation research to be conducted on sex education programmes, reliable and valid assessment tools are required. An inventory of a test is needed to determine where to begin with socio-sexual instruction and what has been learned consequent to instruction (Edmonson, McCombs, & Wish, 1979). It is hoped that the revised SSKAAT-R will be such a measure with both clinical value and research value.

Scope and Limitations of the Study

There will be certain boundaries to this study. First, participation will be limited to adults who are 18 years of age or older, partly due to accessibility. Participants will be accessed through local community agencies that support individuals who have a developmental disability. These clients must be adults in order to receive this type of support.

Secondly, participants in the study must not have had any previous sexuality education. This is a prerequisite for participation in order to try to ensure that any differences found in their attitudes or knowledge regarding sexuality is in fact an influence of the sex education classes.

Furthermore, sexual experiences of participants will not be studied. Only levels of knowledge toward sexuality will be assessed. This is due to issues of privacy and ethics. Participants will not be asked about their own intimate sexual experiences.

Outline of Subsequent Chapters

Chapter 2 will provide a literature review relevant to this study. It will address sex education for individuals who have a developmental disability as well as the need for assessment. Chapter 3 will provide an outline of the methodology that will be employed for this study. Chapter 4 will describe results of the study and Chapter 5 will include a discussion of results, limitations of the study, as well as suggestions for future research.

CHAPTER TWO: LITERATURE REVIEW

Introduction

Until the 1960s, the sexuality of individuals who have a developmental disability was handled with denial and suppression (Kempton & Kahn, 1991). The Eugenics movement of 1880-1940 led to forced mass sterilization and the segregation of members of our society who had developmental disabilities. The civil rights movement (1960s) and the "sexual revolution" (1970s) were among the catalysts for change as was the move toward normalization and deinstitutionalization of people who have developmental disabilities. In the last 30 years, professionals and caregivers have begun to work together to find ways to help individuals who have developmental disabilities to understand their sexuality and to engage in appropriate self-affirming sexual behaviours (Kempton & Kahn, 1991).

Despite much progress in expanding public policy at all levels, the fundamental rights of people who have developmental disabilities have yet to be fully acknowledged or secured (Medlar, 1998). Much of society remains ignorant about the capabilities and rights of people who have developmental disabilities. They have not been given the respect to which they are entitled as citizens nor have most received the support they need to enable them to exercise their rights (Medlar, 1998).

When it comes to sexuality, personal issues can become public and contentious. When couples or individuals explore their sexuality, staff and family members often become involved, leading to conflict. Difficulties arise when staff and family members demonstrate negative attitudes and have little tolerance for discussion of sexual matters, often denying these individuals their human rights (Medlar, 1998). Individuals who have

developmental disabilities thus face many barriers including a lack of privacy, the inability to find partners, and restrictive institutional policies and rules (Medlar, 1998). Society has not been comfortable addressing sexual and reproductive rights and this is even more true when dealing with an individual who has a developmental disability. Many people harbour feelings of ambivalence, confusion, and discomfort in relation to the sexuality of individuals who have a developmental disability (Szollos & McCabe, 1995). While individuals with disabilities may have a desire for sexual expression, those around them likely see sex as a problem (Thompson, 2001).

Although the sexuality of individuals who have a developmental disability has become more acknowledged, there are many myths from the beginning of the century that still exist (Griffiths, 1999). These myths serve a common purpose: to push the sexuality of individuals who have a developmental disability outside of the "normal" range. Seven common myths, as described earlier include:

- Individuals who have developmental disability are eternal children and asexual
- Individuals who have developmental disabilities need to live in environments that restrict and inhibit their sexuality to protect themselves and others
- Individuals who have developmental disabilities should not be provided sex education as it will only encourage inappropriate behaviour
- Individuals who have developmental disabilities should be sterilized because they will give birth to children who have disabilities
- Individuals who have developmental disabilities are more likely to develop diverse or deviant sexual behaviour

- Individuals who have developmental disabilities are over-sexed, promiscuous, sexually indiscriminative, and dangerous, and you have to watch your children around them
- Individuals who have developmental disabilities cannot benefit from sexual counselling or treatment (Griffiths, 1999).

These myths thus allow society to deny the sexuality of individuals who have developmental disabilities and as long as these myths exist, the sexuality of individuals who have developmental disabilities will continue to be misunderstood and misrepresented. However, through an acknowledgment of sexuality and the provision of learning opportunities regarding sexuality, individuals who have developmental disabilities can become sexual beings and begin to dispel these myths.

Before sex education can be discussed, it must first be noted that sexuality is more than simply sexual behaviour. It encompasses one's feelings of femininity or masculinity, one's sense of worth and desirability, and one's ability to give and receive affection, love, and caring in all of one's personal relationships (Medlar, 1998). All individuals are sexual and express their sexuality in different ways throughout the life cycle. Acquired physical and mental impairments may alter one's sexual drives, but they do not eliminate basic sexual drives or human needs for affection, intimacy, as well as a healthy and positive self-concept (Medlar, 1998).

Sexuality has not been an integral part of the lives of people with either intellectual or physical disability (McCabe, 1999). Although most professionals and support providers agree that sex education should be provided for individuals who have developmental disabilities, many people are still not provided the opportunity to access it.

Many schools and community agencies do not have ongoing socio-sexual programmes and when programmes are provided, they often fail to provide a range of important topics needed for a full understanding of one's sexuality (Griffiths, 1999). The following literature review will examine the need for sex education, what should be included in a comprehensive sex education programme, how sexuality education should be taught, and will discuss the need for comprehensive evaluation and assessment of the programme and skills acquired by the individuals.

The Need for Sex Education

According to Whitehouse and McCabe (1997), there is a clear need for sex education due to a number of factors. These include deinstitutionalization, the increased incidence of sexual abuse against people with intellectual disability, the advent of AIDS, and the interest that people with intellectual disability have expressed in learning more about sexuality. With the movement of individuals who have a developmental disability into the community, it is essential that they receive adequate information and training on the range of birth control options available to them if they are to make informed choices about their sexual behaviour (Szollos & McCabe, 1995). Adams, Tallon, and Alcorn (1982) confirm this by stating "[t]he need for sex education is apparent" (p. 311).

According to McCabe and Schreck (1992), individuals who have developmental disabilities are sexual beings with gaps in knowledge and experience. They also have unmet needs in the sexual and relational aspects of their lives. These researchers state that the sexuality of individuals who have developmental disabilities can no longer be denied or ignored and the development of sex education programmes specifically designed for these people is essential in order to enhance their quality of life.

There is therefore a definite need for sex education for individuals who have a developmental disability. There are many factors that contribute to this need. These include a lack of knowledge regarding sexuality for individuals who have a developmental disability, negative attitudes toward sexuality, the increasing risk for sexually transmitted diseases and HIV infection, and the heightened risk of sexual abuse for individuals who have a developmental disability.

Lack of Knowledge

Researchers have found that the sex knowledge of people with developmental disabilities is partial, inaccurate, inconsistent, and even improbable (Gillies & McEwen, 1981; McCabe, 1999; McCabe & Cummins, 1996; McCabe & Schreck, 1992; Szollos & McCabe, 1995). While individuals who do not have disabilities receive sex education from parents, friends, and other sources, individuals who have a developmental disability most likely only receive their sex information from "other" sources (McCabe, 1999). This illustrates that there is less discussion of sexual issues among people with a disability with family (parents or siblings) or friends. Consequently, individuals who have a developmental disability have very little opportunity to learn about sexuality from sources other than the media and formal sex education classes.

Gillies and McEwen (1981) corroborate this and state that information is evidently not being provided by parents, or gleaned from the media, as testified by the extensive nature of the gaps in knowledge. Griffiths (1999) states that individuals who have developmental disabilities often experience very different learning experiences with regard to their sexuality. They are often sheltered from sexual knowledge and typical experiences that would assist them in developing a healthy understanding of their

sexuality. She further states that inappropriate sexual behaviour can develop because of a lack of sexual knowledge and understanding.

McCabe (1999) performed a study that was designed to evaluate the sexual knowledge, experience, feelings, and needs of people who have a developmental disability or physical disability as compared to people who do not have a developmental disability. Participants included 60 individuals with a mild intellectual disability (28 males and 32 females, with the mean age of 27.62 years), 60 individuals who had a physical disability (33 males and 27 females whose mean age was 28.65 years), and 100 people who did not have a disability (40 males, 60 females, with a mean age of 30.10 years). Each respondent was asked to complete a scale that assessed levels of knowledge, experience, feelings, and needs in 12 different areas of sexuality. This scale is called the Sexual Knowledge, Experience, and Needs Scale (SexKen) and an adapted scale is available for individuals who have a developmental disability (Sex Ken-ID). These measures cover the areas of current relationships, sex and sexuality, body part identification, menstruation, pregnancy, childbirth and abortion, contraception, sexually transmitted diseases, masturbation, marriage, homosexuality, sexual interaction, dating and intimacy, and sexual abuse (Szollos & McCabe, 1995).

McCabe's (1999) results revealed that individuals who have a developmental disability experienced lower levels of sexual knowledge and experience, more negative attitudes toward sex, and stronger sexual needs than people who have physical disabilities, in all areas of sexuality. Individuals who have a physical disability demonstrated these same trends when they were compared to individuals who did not have any form of disability. McCabe (1999) contended that both groups of participants

who have disabilities indicated higher levels of sexual needs than the participants who did not have a developmental disability. The author concluded that her study demonstrates that the needs for sexual knowledge and experience among people with intellectual disability and physical disability are not being met.

McCabe and Cummins (1996) performed a similar study that concerned an evaluation of the sexual knowledge, feelings, experience, and needs of individuals with a mild developmental disability. Participants were 30 individuals who had a mild developmental disability (18 females and 12 males) who were living in community houses and a comparative group of 50 first-year psychology students (32 females and 18 males). The results from this study suggested that individuals who have a developmental disability have lower levels of sex knowledge than a comparative student population in almost all areas. The only topics on which there were no differences between the two groups were in the areas of menstruation and body part identification (McCabe & Cummins, 1996). The authors concluded that, clearly, sex education is a central issue for the community integration of individuals who have a developmental disability, yet they are greatly disadvantaged in this process.

Szollos and McCabe (1995) also conducted a study to assess the sexuality of individuals who have a developmental disability, but this study also looked at perceptions of caregivers with regards to their clients' knowledge and attitudes concerning sexuality. In the study, information regarding the sexuality of participants was obtained through interviewing them directly and then comparing their responses with the perceptions of their caregivers. This was also compared to a group of participants who did not have a developmental disability.

Participants included 25 individuals (15 female and 10 male) who had mild intellectual disability and ranged in age from 16 to 45 years. They were all living in community housing with support provided by a Government agency. Ten support providers also volunteered for the study, whose age range was 23 to 44, and 39 students volunteered who were enrolled in a first-year university psychology course, whose ages ranged from 18 to 43 years. Participants who had a developmental disability completed the Sex Ken-ID outlined in the previous study, while the student population completed a parallel form of this measure (SexKen). Support providers completed the Measure to Assess Caregiver and Parental Perception of Sexual and Relational Knowledge, Experience, Feelings and Needs (SexKen-C).

Szollos and McCabe (1995) found that the overall sexual knowledge and experience levels of the individuals who had a mild developmental disability in this study were low. Both men and women showed deficits in knowledge and were less experienced than the student population. The authors concluded that the sexual knowledge of people with intellectual disability is often partial, inaccurate and inconsistent, and contains misconceptions. Some of these misunderstandings included the belief that sexual intercourse is intended to hurt the female, that women can give birth without being pregnant, that masturbation causes harm, that men have periods, and that in heterosexual intercourse the penis generally goes into the woman's anus (Szollos & McCabe, 1995).

Another interesting finding was that caregivers significantly overestimated their clients' knowledge regarding sexuality in almost all areas, including masturbation, marriage, homosexuality, sexual interaction, and dating and intimacy. Support providers

also overestimated their clients' experience in most areas and their feelings and attitudes in the areas of current relationships, STDs, masturbation, sexual interaction, and sexual abuse (Szollos & McCabe, 1995). Therefore, support providers do not necessarily know the needs and knowledge of their clients and may assume that clients have sufficient sexuality knowledge and training.

Heshusius (1982) also looked at the attitudes and knowledge concerning sexuality of individuals who have a developmental disability. However, this researcher performed a literature review and participant observation study in order to determine this information. She found common themes, including "ignorance of basic facts on sexual relations", "enjoyment of, desire, or anticipation of sensual/sexual contact"; "fear or anxiety about sexual contact"; and "more intimate degrees of physical contact and sex belong with marriage" (Heshusius, 1982, p. 165). Heshusius (1982) therefore found that individuals who have a developmental disability have a desire for sexual intimacy, but also found that they are largely misinformed and hold negative attitudes toward sexuality. Thus, this brings us to another reason for the need for sex education, the negative attitudes of individuals who have a developmental disability regarding sexuality.

Negative Attitudes Toward Sexuality

Although there is limited information available on the sexual attitudes of people with intellectual disability, the data that are available have shown that they are poorly informed and hold largely negative attitudes toward the expression of their sexuality (Heshusius, 1982; McCabe, 1999; McCabe & Cummins, 1996; McCabe & Schreck, 1992; McCarthy, 1993; McCarthy, 1996; Szollos & McCabe, 1995). An early study conducted by Edmonson and Wish (1975) investigated the sexual attitudes of men who

had moderate intellectual disabilities in relation to a variety of sexual behaviours. They found that one third of participants indicated that they believed that masturbation and heterosexual intercourse were wrong, and a large proportion believed that homosexuality was wrong. These results indicated that the majority of men held negative attitudes about sexuality and sexual expressions.

Timmers, DuCharme, and Jacobs (1981) found results in contrast to Edmonson and Wish (1975). They found that, for men and women who had mild intellectual disabilities living in the community, a large proportion had positive feelings about masturbation, dating, and heterosexual physical contact such as kissing and hugging with clothes on. However, the majority of both male and female participants had negative attitudes about homosexual behaviours and a significant proportion of males and females had disliked the experience of intercourse. In addition, Timmers et al. (1981) discovered that participants found it difficult to discuss sex with others.

There are also gender differences in the experience of sexuality for individuals with developmental disabilities. In a qualitative study, McCarthy (1993) found that men and women with disabilities experience sex very differently. She found that sex was primarily for the men's pleasure and that the men took their pleasure at the expense of the women's. When asked who enjoys sex more, women or men, the vast majority of women were clear that the man likes sex much more than they do, if they like it at all. McCarthy (1993) asserts that in order for women with disabilities to start sharing in some of the benefits of changing attitudes towards women's sexuality, they, like other women who are particularly vulnerable to being taken advantage of sexually (e.g., young women), need to be explicitly taught about their own bodies, their own potential for

experiencing sexual pleasure and, most importantly, that their role in sex is not just to satisfy men's wishes. Thompson (2001) has found that power differences between men and women with disabilities are greater than those in the general population. When men with learning disabilities are having sex with women, the sex is initiated and controlled by the man, with the singular agenda of meeting his sexual desires. The possibility of pleasure on the part of the woman is undermined by the man's general lack of knowledge about women's bodies (Thompson, 2001).

More recent studies have revealed that greater proportions of individuals who have a developmental disability have positive feelings regarding some aspects of sexuality, but there are still areas where negative attitudes prevail. McCabe and Cummins (1996) found that the majority of participants in their study had positive feelings about intercourse, but only about half of them had positive feelings about masturbation, oral sex, or homosexuality. These authors feel that the more positive attitudes of participants may be due to the changing attitudes of parents and support providers toward the sexuality of individuals who have a developmental disability.

Despite improvements in society's attitude toward sexuality, McCabe (1999) states that knowledge about sexuality is still not provided and there is limited discussion about sexuality, therefore negative feelings develop in relation to sexuality. Consequently, there are low levels of expression of sexuality by individuals who have a developmental disability. McCabe (1999) also states that although society's attitudes toward the sexuality of individuals who have a developmental disability is now more positive, information on the actual sexual expressions and attitudes toward sexuality is largely unavailable.

Risk for Sexual Abuse

Regardless of age, individuals who have a developmental disability appear to be more vulnerable to abuse than individuals who do not have a disability (Goldman, 1994). Sobsey (1988) cites similar findings, stating that individuals who have all types of disability are at a much higher risk of sexual assault, sexual abuse, and sexual exploitation. Although the exact degree of risk varies from study to study, it appears to be at least 150% of that for individuals of the same sex and similar age who do not have disabilities. Sobsey (1994) suggests that individuals who have a developmental disability are 1 ½ times more likely to be sexually abused in their lives than individuals who do not have a disability. In a survey of 85 women who had a disability, 70% indicated that they had been violated sexually (Goldman, 1994).

There are a number of factors that render individuals who have a developmental disability particularly vulnerable to sexual abuse. One such factor is the assumptions that many people make about individuals who have developmental disabilities. These include the belief that no one would take advantage of an individual who has a disability; that any form of sexual contact is enjoyed by individuals who have disabilities as they are more stimulated sexually than other people; or that individuals who have disabilities have impaired sexuality (Carmody, 1991).

The increased vulnerability for abuse of individuals who have a developmental disability is not related directly to the nature of the individual's disability (Griffiths, 1999; Sobsey, 1994; Sobsey & Varnhagen, 1991; Ticoll & Panitch, 1993). Rather, it has been suggested that abuse is more likely to occur because of the way society treats individuals who have a developmental disability and views their sexuality (Griffiths,

1999; Griffiths et al., 1995; Sobsey, 1994). Griffiths (1999) also states that "sexual abuse is not just a sexual act-it is an expression of power" (p. 449).

Abuse, whether it be individuals who have a developmental disability or not, is characterized by inequities in power (Doe, 1991). Sobsey (1995) supports this and states that individuals who have disabilities have been vulnerable to abuse because of power inequities. While some of the power inequities experienced by individuals who have disabilities are the direct effects of impairments (e.g., a person who uses a wheelchair is less likely to be able to carry out effective self-defense or to escape a violent confrontation), most of these inequities result from disempowerment. Sobsey (1995) goes on to state that the liberties and rights of individuals who have disabilities have often been severely restricted, leaving them vulnerable to violence and exploitation. He suggests that as individuals who have disabilities empower themselves, some of these power imbalances can be restored. The central issues of power and sexuality must therefore be integrated into the understanding of abuse (Doe, 1991).

Nankoosing and John (1997) discuss the vulnerabilities of women with disabilities to abuse due to their desire to please others because they are afraid of rejection. Furthermore, sometimes they are dependent on the other's physical or emotional support (McCarthy, 2001). Often, being in a sexual relationship with a man is one of the few ways that women with disabilities can be admired, envied, or accorded status by other people (Burns, 2000). The things which help other adult women feel good about themselves, such as their jobs, having children, buying a house, are often not available to women with developmental disabilities (McCarthy, 2001). It is therefore

hard for them to develop self-esteem. When women have low self-esteem, it is harder to achieve and maintain a happy and healthy sexual life.

According to Sobsey (1994), sex education is essential for reducing the risk of sexual abuse. Sex education reduces this risk in several ways. First, knowledge and an understanding about sex are essential to recognizing sexual abuse. Sobsey (1994) goes on to state that unless people understand the notion of sexual interactions, they are unable to make informed choices about whether or not to participate in them. Third, those who are not taught about sexuality in a positive manner often learn about it through exploitation and abuse. Finally, as people with developmental disabilities reach adulthood, they should be allowed and encouraged to participate in healthy sexual relationships. Those who participate in healthy relationships will be less isolated and therefore less vulnerable to abuse (Sobsey, 1994).

In a study of sexual abuse and exploitation of individuals who have disabilities, Sobsey and Varnhagen (1991) found that one of the biggest risks for sexual abuse was the victim not having enough knowledge about appropriate sexual behaviours and/or having poor judgment. They concluded by stating that special educators need to review the philosophy of curricula to increase focus on assertiveness, choice, discrimination of appropriate and inappropriate requests, and improved sex education. Edmonson (1980) states that "[w]ithout proper sex education, individuals run the risk of being sexually exploited or sexually rejected by others" (p. 68).

Risk for STD and HIV Infection

Another increasing risk for individuals who have a developmental disability is the transmission of sexually transmitted diseases and HIV. Scotti, Speaks, Masia, Boggess,

and Drabman (1996) state that persons with developmental disabilities are at risk for HIV infection and AIDS. Bartel and Meddock (1989) support this and state that young people are at an increasingly high risk for contracting AIDS. They go on further to say that among adolescents, individuals who have learning disabilities appear to be a group potentially at high risk for contracting AIDS.

Men with disabilities are at a particularly high risk for contracting HIV, especially those who have sex with other men in what Thompson (1994) describes as "cottaging." Cottaging is the pursuit of and the experience of sex between men in certain settings. Commonly, these are public washrooms, but could also be parks or other public spaces which offer some privacy, perhaps behind bushes or because of darkness. It is essential to understand that if a man cottages, it does not mean that he identifies as gay; further, many gay men do not cottage (Thompson, 1994).

It has been found that a proportion of men who cottage are men with developmental disabilities. In a very rich study, Thompson (1994) describes the experiences of 19 men with disabilities who have sexual activities in public areas. Furthermore, in his study, Thompson (1994) found that only one man had any idea of what HIV was and many did not know that condoms offer protection from AIDS. All of the men recognized condoms and said they had been used for anal sex, but it was apparent that for each man, the use of condoms for anal sex was alarmingly rare. None of the men reported bringing condoms to a sexual encounter or provided any suggestion that they had negotiated their use. It was clear that the only determinant of condom use was whether the men penetrating them chose to use them (Thompson, 1994).

Consequently, these men were at an extremely high risk for HIV infection, largely due to a lack of training regarding HIV transmission and condom use.

With regards to education, Bartel and Meddock (1989) state that much attention in AIDS prevention is being rightfully directed toward groups that are considered to be at high risk. However, students who have disabilities who are at particular risk have, to the present time, been virtually ignored in the current AIDS crisis. They provide as evidence of this the verity that no credible special curricula exist for teaching adolescent students who have disabilities about AIDS, and the Centre for Disease Control itself cannot break out its data to indicate what percentage of young people with AIDS have disabilities. It should be evident that there is a great need for HIV/AIDS education programmes for persons with developmental disabilities. However Scotti et al. (1996) state that while a number of HIV/AIDS education programmes have been proposed, outcome studies are notably absent from the published literature, which is a deficiency that urgently needs to be addressed. Bartel and Meddock (1989) propose that for all students, but especially for students who have learning disabilities, questions exist about whether mediating variables such as impulsivity, awareness of disease causality and control, and perception of self-efficacy affect the risk behaviours known to be associated with transmitting AIDS.

This therefore brings one to the conclusion that the development and implementation of a sex education programme for individuals who have developmental disabilities is imperative and an urgent requirement. Sex education will decrease the chance for sexual assault as well as the risk for the transmission of sexually transmitted diseases and HIV. Furthermore, by filling gaps in sexual knowledge, an educational programme may ultimately provide a more important function. It will improve the social

and personal adequacy of the individual who has a developmental disability and generally contribute to an improvement in the quality of life experienced (Gillies & McEwen, 1981).

Now that it has been established that there is a definite need for sexuality education for individuals who have a developmental disability, a discussion of what should be taught must be presented.

What Should We Teach in a Sex Education Curriculum?

McCabe (1999) posits that there have been particular challenges in the last 15 years with the advent of AIDS and the emergence of information on the magnitude of the level of sexual abuse among people with intellectual disability, as well as a recognition that many sexual offenders are intellectually disabled. These issues have highlighted the need for comprehensive programmes of sex education, which incorporate training, not only on matters related directly to sex, but also on social relationships and enhancement of self-esteem. Foley (1995) states that the absence of a well-designed curriculum may result in delivery of a human sexuality programme that lacks comprehensiveness and cohesiveness. Coleman and Murphy (1980) declare that a sex education programme cannot simply be tacked on but requires considerable curriculum development and staff coordination.

McCabe and Schreck (1992) contend that when sexuality information is provided, it is frequently to address problems and is not formulated to integrate a person's sexuality into other aspects of the person's life. Therefore many areas of sexuality are never considered in such programmes. McCarthy (1996) states that few referrals for sexuality education are of a proactive nature. Rather, most are reactive; for example, if individuals

are displaying inappropriate sexual behaviour or may be putting themselves at risk. Griffiths (1999) supports this notion and declares that too often, individuals who have a developmental disability are sent for socio-sexual education only if there is a problem. She states that sexuality training is best used proactively or preventatively and that the objective of socio-sexual education should be to teach responsibility for one's sexual feelings and desires, not to eliminate sexual interest and responses.

Cole and Cole (1993) assert that individuals with and without disabilities have the same rights to information, services, and to health service providers with adequate knowledge, sensitivity, and experience in areas of sexual development. Self-empowerment, life skills, parenting, and medical concerns are common to everyone, but these are issues that may need special attention in individuals who have disabilities. As individuals mature, new problems may be added to underlying disability issues. Cole and Cole (1993) provide examples such as further confusion of gender role, stigma, need for more adaptive equipment, societal expectations of the aging adult, and the anticipated transition from health to illness.

In a recent study, Griffiths and Lunsky (in press) asked respondents what additional items they would suggest for inclusion in socio-sexual training. This study was a replication of a 1979 survey conducted by Edmonson, McCombs, and Wish. However, Griffiths and Lunsky added questions about what should be included in sex education. Twenty-five percent (25%) of the respondents listed HIV/AIDS. Other sexual health issues and other sexually related medical disorders were also requested. Another major area for inclusion was sexual abuse and violence, including topics of consent, coercion and abuse prevention. Other topics included a range of sexual expression from

abstinence to phone sex. Issues of personal values or morals were also raised. There were a number of individuals who noted the importance of recognized the consequences of sexual behaviour, both appropriate and inappropriate and the legal aspects of sexuality. Finally, issues of self-esteem, sexual feelings and relationships were raised repeatedly.

As with the ratings above, the additional items reflect a concern for sexual health issues and protection against abuse (Griffiths & Lunsky, in press). The items demonstrated an emphasis on sexual choice and sexual responsibility. Additional written responses identified the need for training in prevention of sexual disease and recognition of problems with sexual organs as part of routine medical care, including being tested for STDs and cancer. This includes training regarding Pap smears and pelvic exams for women (Griffiths & Lunsky, in press).

Griffiths and Lunsky (in press) also found a strong desire for teaching regarding the sexual exploitation of persons with developmental disabilities. In the past, there has been an emphasis on hitchhiking and suggestibility, reflecting the belief that sexual exploitation of persons with developmental disabilities was because of the naivete of persons with developmental disabilities or because of the risk of strangers or high-risk behaviour. However, these researchers found that there is now an increased desire for emphasis on incest and other forms of inappropriate sexual contact, including rape. This shift may suggest a growing awareness in the field that the sexual abuse of persons with developmental disabilities is not a vulnerability inherent to disability but the result of an inequity of power, as seen in incest and rape (Griffiths & Lunsky, in press). It also suggests growing recognition that much of the abuse is perpetrated by people known to the victim as opposed to strangers. Moreover, the increased concern with nudity and

exposure represents a shift in the field to the importance of teaching adults with developmental disabilities to assert themselves and maintain healthy boundaries.

A comprehensive sexuality education programme should therefore include many things. These include basic body part identification, relationship training, information regarding sexually transmitted diseases and birth control, a discussion of sexual pleasure, and empowerment/self-esteem training. It is also necessary that training be differentiated to meet the individual needs of each participant.

Anatomy and Sexual Health

Lumley and Miltenberger (1997) contend that for adults who have developmental disabilities, education regarding sexuality should be more extensive. Because there is often a scarcity of sex education for these individuals, rudimentary sex education, such as teaching the names of private parts and explaining the varieties of sexual behaviour, including sexual intercourse, may first be necessary. Monat-Haller (1992) contends that sexuality education should include the teaching of anatomy and physiology as well as maturation and body changes.

Kempton (1993) also supports the teaching of body parts and physiology in her curriculums, *Life Horizons 1 and 11*. Sexuality education should include discussion of male and female anatomy, including reproduction, the sexual life cycle, and human sexual response. Kempton (1993) also contends that curricula should include a discussion of sexual health, including the care of sex organs. This would entail a discussion of good habits of cleanliness as well as the importance of medical examinations for men and women.

McCarthy (1993; 1996) also discusses the importance of teaching about men's and women's bodies in order to increase sexual pleasure as well as to decrease vulnerabilities. She states that Thompson (2001) supports this and states that many men are ignorant about their partners' bodies, which thus leads to a lack of sexual satisfaction.

Relationship Training

In addition, because adults have the right to engage in consensual sexual relationships, education about what constitutes appropriate and inappropriate sexual relationships is also necessary (Sobsey, 1988). Many aspects of sex education are well integrated with social skills training and relationship training (Sobsey, 1994). In humans, reproduction and sexual behaviour are not synonymous. Edmonson and Wish (1975) state that a test of body terminology is not the equivalent of inferential comprehension of sexual activity. Cole and Cole (1993) feel that in terms of sexuality, it is advisable to avoid a narrowly defined concept of sexuality (e.g., coitus and reproductive physiology). They feel that it is useful to include information that helps the adolescent or adult prepared for sexual fantasies and activities.

Men and women must learn not only about sexuality, but they must also learn about sexual relationships. Cole and Cole (1993) add to this the need to learn about love, and assert that it becomes apparent that both the tasks and the rewards become complex. Sobsey (1994) contends that the important social and emotional contexts of sexuality are often carefully withheld from sex education. He goes on to say that "[u]nfortunately, these are not only among the most enjoyable aspects of sexuality, they are also among the most essential ones" (p. 184). This is also important, because, as found by McCarthy (1999b), for most individuals who have developmental disabilities, sex is experienced

primarily physically, rather than as a psychological or emotional connection with the person concerned.

Page (1991) asserts that sexual activity is not an isolated behaviour, but often occurs within an intimate relationship. Therefore, training of sexual behaviour should occur concurrently with education in social skills and leisure activities. It should also consist of teaching requisite behaviours, including social skills necessary for empathy, stability, and intimacy in relationships.

Schultz and Adams (1987) declare that existing curricula need to consider placing emphasis on marriage, the decision to parent, and parenting; areas that generally are not being addressed in programmes for individuals who have developmental disabilities. Griffiths (1999) contends that a fundamental part of socio-sexual education is teaching that there are responsibilities that come with sexual expression. Page (1991) supports this and asserts that individuals who have a developmental disability need to be taught clearly the consequences of sexual behaviour.

Concerning pregnancy, Timmers et al. (1981) found that 50% of females and over 80% of males in their normalized sample wanted children, although they only had vague plans about achieving this aim. These researchers state that the message that children are a consequence of sexual intercourse needs to be conveyed, alongside the concept of what child rearing involves. Kempton (1993) further develops this and encourages teaching about what is involved in the entire process of human reproduction and parenting. This means that parenting does not begin at the birth of the baby, but with conception, so prenatal care is extremely important. Kempton (1993) also feels that participants should

also understand what is involved in the actual birth process, which is a very important part of parenting.

More and more individuals who have developmental disabilities are in fact having children and should therefore be taught how to properly care for their child. Researchers such as Feldman (1986), Case and Gang (1999), and Bakken, Miltenberger, and Schauus (1993) have proposed teaching programmes for parents who have developmental disabilities and have reported a fair amount of success. However, as stated by Feldman (1986), continuing research is needed to the development of an assessment and training model for parents who have a developmental disability.

Sexual Pleasure

It has also been suggested that sexual pleasure should be discussed in sexuality education classes. Most women who have spoken about their sexual experiences have said that they do not experience much, if any, sexual pleasure (McCarthy, 1999b). According to McCarthy (2001), women's potential for experiencing sexual pleasure is something that needs much more emphasis in sex education for both men and women with disabilities.

This is also important for men who have disabilities, especially for men who have sex with other men. In his study, Thompson (2001) found that most men who have disabilities, when they talk about sex with other men (including men without disabilities), they are the ones without relative power and their sexual pleasure is limited to serving the other man's desires. The men in this study came to expect anal penetration to be painful, although it does not have to be. This is largely due to a lack of education or awareness of sexual pleasure.

It must be emphasized that physical pleasure is not the only kind of pleasure to be gained from engaging in sex. Many people get emotional pleasure or satisfaction from simply being in, and being seen to be in, a sexual relationship. This is very important to many individuals and should not be overlooked in sex education, where there is a tendency to focus on the physical aspects of sexuality (McCarthy, 2001).

Attitudes

Whitehouse and McCabe (1997) state that few programmes have been concerned with the enhancement of positive attitudes towards sexuality. However, they go on to say that programmes that focus solely on increasing the positive attitudes of people with intellectual disability only ensure that people have information but not the permission to use the information. Kempton (1993) addresses the negative attitudes toward sexuality of individuals who have a developmental disability and claims that participants need to develop a better understanding of how their attitudes are formed and how these attitudes affect their lives and work. She feels that participants must become emotionally involved enough that they recognize some of their own guilty, negative, and uncomfortable feelings about sexuality. Then, it is hoped that they will be able to rid themselves of this discomfort in order to discuss sexuality more openly and that they may develop more positive attitudes toward sexuality. Jacobs, Samowitz, Levy, and Levy (1989) concur and feel that sexuality education should change the participant's attitudes and values. This entails the person's inclinations, prejudices, ideas, fears, and convictions.

Self-Empowerment/ Self-Esteem Training

Independence, personal esteem, positive body image, and positive sex messages should also be emphasized. Social skills, body image, self-esteem, and personal integrity

are central to one's ability to enjoy life and to participate in the development of relationships and intimate behaviour (Cole & Cole, 1993). Silence from the medical community concerning disability, sexuality, and reproductive issues relays the stronger message of rejection and repression and gives the impressions that parenting is not to be considered. According to Cole and Cole (1993), "[t]his approach is not helpful" (p. 199).

Goldman (1994) posits that children and youth need to learn about their rights- to refuse or question approaches that they believe inappropriate. They must learn decision-making skills; the freedom to choose, coupled with the responsibility for those choices promotes self-esteem and problem-solving mastery. Sobsey and Varnhagen (1991) assert that special educators must review the philosophy of curricula to increase focus on assertiveness, choice, and discrimination of appropriate and inappropriate requests.

Birth Control/ Sexually Transmitted Diseases

In their study, Griffiths and Lunsky (in press) found clinicians recognized that persons with developmental disabilities need to be educated about sexually transmitted diseases. Although Griffiths and Lunsky's questionnaire asked for a rating on "venereal disease" to keep parallel to the questions for the 1970s questionnaire (Wish et al., 1979), many respondents commented that HIV/AIDS should be part of any or curriculum. Some researchers have suggested that the rate of HIV will soon spread as Hepatitis B did in persons with developmental disabilities so that it occurs as frequently as the general population (Scotti et al., 1996). In addition to knowing what HIV means, individuals should be educated about how it can be prevented and also what should be done if one suspects that he or she may have contracted it.

Cole and Cole (1993) contend that accurate and explicit information regarding the prevention of STDs, including AIDS, must be available to all children and adults in our society. They also posit that there needs to be a great understanding and consideration of the problems imposed by physical disabilities on sexual functioning. In discussing reproductive options and birth control, one must assess whether the disability influences fertility and fertility options.

Some birth control methods may be contraindicated for women who have specific disabilities. There may also be unrecognized and ongoing medical conditions that may affect fertility, such as irregular menses and chronic infection that must be discussed in sexuality education classes for individuals who have a developmental disability (Cole & Cole, 1993). Reproductive choices that are suitable for women who have a disability must be discussed and made available.

With regards to education regarding sexually transmitted diseases, Jacobs et al. (1989) propose an extensive HIV education programme and declare that participants must learn several things. Their recommendations are as follows:

- People must perceive HIV infection as a personal threat
- Emphasize that HIV infection is preventable
- Individuals must be convinced that they can manage the behavioural changes that may be necessary
- Reassure individuals that they can still be sexually satisfied (pp. 235-236).

These researchers state further that it is clear that before a significant reduction in HIV-risk behaviour can be expected, HIV/AIDS programmes for persons who have developmental disabilities will need to target the modification of specific risk behaviours.

This can be accomplished by providing direct skills training and adequate support for the utilization of those new skills. This thus brings us to how sex education should be taught.

How Should We Teach Sex Education?

Griffiths (1999) states that learning about one's sexuality does not take place in six 1-hour sessions, nor is it restricted to one period in one's life. It is a life-long process. This means that individuals who have a developmental disability, just like individuals who do not have a disability, will learn about sexuality throughout their life development, when it has meaning to their lives. Individuals need access to accurate information when it is age-appropriate and contextually relevant for them to know it. Sobsey and Doe (1991) support this and contend that any education regarding sexuality, of course, should be appropriate for the age and level of functioning for the given individual(s).

Ames (1991) develops this further and states that the developmental years prior to puberty are a time when sexual rehearsal play is both a natural and healthy preparation for later adult sexual adjustment. It is also a time of vulnerability to distortion and trauma perpetrated through ignorance, circumstance, either intentionally or not, which can result in adult paraphilias as yet little understood or properly treated. For these reasons, good sexuality education ought to begin at birth, couched in a framework of positive, healthy attitudes and responses from nurturing adults. Few, it seems, even now have the best of this vital preparation.

McCabe (1999) asserts that the low levels of sexual knowledge found in her study may suggest that formal sex education classes are largely not effective. She believes that it is not sufficient that people with disabilities receive information on sexual issues, but it is important that the information changes their knowledge about sexuality (both short-

term and long-term) and improves their experience of sexual interactions. Most importantly, McCabe (1999) feels that sexuality needs to be normalized among people with disability. This can be accomplished through a validated sex education curriculum that is incorporated into the everyday living environment (Adams et al., 1982).

McCabe and Cummins (1996) stress the importance of parents and caregivers working together to provide sex education. They state that sex education programmes have a greater likelihood of success if parents and care staff are also involved, both in terms of exposure to the programme and working through the programme with the people with intellectual disability. "Such a program requires good teachers, parent participation, resources, and time" (Edmonson, 1980, p. 71).

Individualized Training

A crucial component of any sex education curriculum is that it must meet the individualized needs of each participant. Whitehouse and McCabe (1997) believe that the real challenge is to assist people to gain a sense of sexual identity, whether that be as a part of a heterosexual or homosexual relationship, or to be a sexual being without a partner. However, in order to do this, educators must develop a sense of the actual sexual needs and experiences of people with intellectual disabilities. Goldman (1994) supports this and states that in order to plan effective curricula for youth, it is important to determine what information young people need. Only then can they tailor programmes to address these needs, rather than imposing the values of the nondisabled culture on people with disabilities.

Whitehouse and McCabe (1997) further go on to state that sex education programmes have tended to assume a heterosexual perspective, teaching heterosexuality

as the only sexual option available to people with an intellectual disability, rather than actually addressing the needs and circumstances of people with disabilities. Sexual orientation is a large assumption that is made when discussing the sexuality of individuals who have a developmental disability. It is taken for granted that all individuals who have a developmental disability are heterosexual (Corbett, Shurberg Klein, & Bregante, 1989). However, 10% of the population in North American has a homosexual orientation, including those who have a developmental disability (Cole & Cole, 1993). McCarthy (1999a) states that "the needs of lesbian women with... disabilities are still almost entirely overlooked in the literature" (p. 122). Hingsburger (1993) discusses the extra problems faced by individuals who have a developmental disability who are also homosexual, as he calls this population "a minority within a minority" (p. 19).

Furthermore, interviews with men with disabilities living in both institutions and community settings reveal that they are significantly more likely to have had sex with men than with women (Thompson, 1994). Many men with disabilities have sex with both men and women, although usually only their relationships with women will be publicly acknowledged (Thompson, 1994). The relevance for sex education, asserted by McCarthy (1996), is that educators should not assume a man does not have sex with men, even when they know he has sex with women. Sexual orientation should therefore be addressed and respected, not assuming that all participants are heterosexual or engage in strictly heterosexual forms of intimacy.

Before any sex education programme can be implemented, accurate data need to be collected on the sexual knowledge, experience, feelings, and needs of individuals who

have a developmental disability across this broad range of areas (McCabe & Schreck, 1992). Only then will we have a valid base from which to construct the curriculum to address the specific needs of these people. At that stage, there also needs to be a consideration of the most effective way in which the programme should be taught; whether it is to be implemented by outside professionals or care staff.

Corbett et al. (1989) discuss the unique issues around sexuality faced by women who have developmental disabilities. These researchers feel that sex educators must understand that disabled women possess the sexual desires and actions of women in general, as well as their specific concerns related to their disabilities. They feel that existing sex education curriculums rarely include either disabled women's images or concerns. This exclusion just contributes to the problems outlined in their research. "Disabled women need to be represented, in their diversity, in all printed materials, all visual aids, all video materials" (Corbett et al., 1989, p. 208).

Another area that should be considered when tailoring a sex education programme is the genetic diagnosis of the participants. The topic of genetic diagnosis and syndromes is another issue that is gaining more recognition. There has been an explosion of medical and genetic technology which, more than ever before, has allowed researchers to understand the important role that genetic factors play in causing developmental disabilities (Finucane, 1996). Geneticists and other medical professionals have begun to study groups of individuals according to the etiologies of their disabilities. Researchers have now found that genetic disorders affect various aspects of behaviour, from cognition and language to adaptive and maladaptive behaviour (Dykens, Hodapp, & Finucane, 2000). However, there are another group of researchers who do not take genetic

diagnosis into account when grouping participants. Special educators and other nonmedical professionals tend to group and compare individuals according to their level of impairment (mild vs. severe mental retardation, educable vs. trainable, etc.), regardless of the underlying reason for the disability (Finucane, 1996). Moreover, as described by B. Finucane (personal communication, June, 2001), most research on developmental disabilities has actually been conducted on individuals with Down Syndrome, due to accessibility. However, as will be described here, this is incorrect because breakthroughs in approaches with individuals who have Down Syndrome may not help an individual who has, for example, Fragile X Syndrome.

As has been stated above, genetic syndromes affect various aspects of behaviour, from cognition and language to adaptive and maladaptive behaviour (Dykens et al., 2000). However, for a variety of historical and practical reasons, special educators have not traditionally included information about the causes of their students' disabilities into their everyday work. Yet, the cause of an individual's developmental disability can impact on his or her learning style, behaviour, and educational needs (Finucane, 1996). In fact, Dykens et al. (2000) suggest that there might be a "best educational setting" for people with specific syndromes. Some examples of this include Down Syndrome, Fragile X Syndrome, Prader-Willi Syndrome, and Williams Syndrome.

Down Syndrome, which is the most prevalent chromosomal cause of mental retardation, has been the topic of a large proportion of research on developmental disabilities. Consequently, much is known about specific strengths and weaknesses of individuals who have Down Syndrome. Individuals who have Down Syndrome have difficulties in developing certain language skills, especially in expressive language and

grammar (Dykens et al., 2000). Moreover, researchers have found that these individuals perform much better on visual-spatial tasks than on verbal or auditory tasks. Individuals who have Down Syndrome demonstrate strengths in visual as opposed to auditory memory on IQ tests as well (Dykens et al., 2000).

Another concern with Down Syndrome is intellectual decline. Individuals without Down Syndrome or any developmental disability, for that matter, show small, gradual intellectual declines as they age. These most commonly affect cognitive/perceptual speed, spatial orientation, reason, and memory. However, in individuals who have Down Syndrome, the issue becomes complicated due to the presence of Alzheimer's disease (Dykens et al., 2000). Most studies indicate that after the age of 30, the brains of nearly all individuals with Down Syndrome show the plaques and tangles characteristic of Alzheimer's. This can thus lead to memory and cognitive loss.

Fragile X is another example of a genetic disorder with its own strengths and weaknesses. Some strengths include verbal skills, long-term memory for learned information, verbal long-term memory, and expressive vocabularies. However, these individuals have difficulty with auditory-verbal short-term memory, visual-perceptual short-term memory, sequential processing, and certain visual-spatial and perceptual organization tasks. There are also many male and female differences in individuals who have Fragile X, specifically females have weaknesses integrating information and males have difficulty with adaptive daily living skills

Individuals who have Fragile X do well with teaching approaches that emphasize simultaneous processing and verbal long-term memory and that are embedded in a

familiar context (Dykens et al., 2000). As opposed to sequential processing tasks in which individuals are required to place stimuli in serial or temporal order, individuals with Fragile X perform better with integrative tasks that stress the overall meaning of the concept to be learned (Dykens et al., 2000). Particularly helpful are integrative tasks that draw on acquired words, have a visual or hands-on component (e.g., pictures, diagrams) or use a familiar context. Individuals who have Fragile X also demonstrate problems with attention span and hyperarousal.

Other examples of syndromes that have cognitive and educational effects include Prader-Willi Syndrome and Williams Syndrome. Individuals who have Prader-Willi have visual perceptual strengths, including an affinity for jigsaw puzzles. However, they have weaknesses in motor short-term memory. Like Fragile X, their simultaneous processing is greater than their sequential processing. Individuals who have Williams Syndrome have auditory and verbal strengths. They have a strong love for and affinity for music, but also exhibit great impulsivity, distractibility, social disinhibition, and anxiety.

Asperger's Syndrome is another syndrome that could have potential effects on classroom and testing situations. This disorder contributes to attention difficulties and distractibility (Atwood, 1998). Moreover, because of their lack of social cues or norms, individuals who have Asperger's exhibit socio-sexual behaviour that may appear naïve, eccentric, or deviant (Atwood, 1998). Although their disabilities can be described as "mild," their impairments in the social domain of functioning require special attention from the mental health and social service systems (Gaus, 2000). For these individuals, the presence of a developmental disability is easy to overlook because, by definition in

the DSM-IV, individuals who have Asperger's do not have mental retardation (Gaus, 2000).

As can be demonstrated from the short descriptions of some specific syndromes, genetic diagnosis can have a great impact on cognitive and educational functioning. However, little research takes genetic etiologies into account when grouping participants. Most research group participants according to level of functioning or IQ. Consequently, what a researcher may describe as a homogeneous sample is really not. Moreover, genetic diagnosis can have a great impact on an individual's ability to learn in a particular setting or benefit from a particular method of instruction. However, without genetic diagnoses of individuals, this is not possible.

Another benefit of genetic diagnosis is the increased awareness of the sexuality needs of the individual. As discussed by Griffiths, Richards, Fedoroff, and Watson (in press), individuals who have developmental disabilities are more likely to experience physical and medical challenges that interfere with their sexual experience and reproduction. As shown in Table 1: Syndromes and Effects on Sexuality, many syndromes may have sexual implications. Furthermore, Griffiths et al. (in press) discuss the use of medication with individuals who have developmental disabilities and the sexual side effects. Please see Griffiths et al. (in press) for an in-depth discussion.

Lesson Guidelines

Jacobs et al. (1989) provide some suggestions for lesson planning for individuals who have a developmental disability. They suggest that when teaching people who have a developmental disability, it is especially important to prepare them for the session.

Table 1

Syndromes and Their Effects on Sexuality

Syndrome	Gender Affected	Effect(s) on Sexuality
Asperger's Syndrome	7:1 male to female ratio	Inappropriate sexual behaviour due to social skill deficits
Down Syndrome	Males and females	Males are generally sterile; Fertility rate in females is low
Fetal Alcohol Syndrome	Males and females	Inappropriate sexual behaviour related to impulsivity
Klinefelter Syndrome	Specific to males	Hypogonadism Gynecomastia Delayed development of secondary sexual characteristics Lack of sperm; usually sterile Elevated gonadotropic hormones Decreased libido
Noonan Syndrome	Males and females	Cryptorchidism Gonadal defects vary from severe deficiency to apparently normal sexual development
Prader-Willi Syndrome	Males and females	Hypogonadism; Small penis Underdevelopment of genitals and breasts Cryptorchidism
Rubinstein-Taybi Syndrome	Males and females	Cryptorchidism
Smith-Magenis Syndrome	Males and females	Polyembolokoilamania
Tourette's Syndrome	3-4 times more common in males	Inappropriate sexual activity due to impulsivity associated with comorbid ADHD Inappropriate touching due to complex motor tics
Turner's Syndrome	Specific to females	Infertility; Ovarian dysgenesis May lack secondary sexual characteristics
Williams Syndrome	Males and females	Menstrual problems Inappropriate sexual behaviour

(Reprinted with permission from Griffiths, Richards, Fedoroff, & Watson, in press)

Distributing an agenda and telling them what the topic is and what is going to happen is very helpful. They also stress the importance of making sure that the participant understands what is going to be discussed. During the lesson, they suggest using the person's vocabulary and to encourage questions and discussion. It is also important not to go too fast because all the relevant information will probably have to be covered over a series of sessions. Repetition of the information is extremely important and will help the individual to generalize the information (Griffiths et al., 1995).

Sobsey (1994) outlines clear ways of improving current sex education programmes. He states that "misguided attempts at sex education can be worse than no sex education at all. Educational practices can be improved in several ways:

1. Ensure that the instructor feels comfortable and competent before providing instruction.
2. Be certain that sex education includes discussions of the emotional and social aspects of sexuality, not just instruction on the anatomy and mechanics of sexuality.
3. Review curricula carefully to eliminate incorrect or misleading information.
4. Always ask students what they have learned following the class. Be prepared to make revisions if they have not learned what was intended.
5. Individualize instructions based on students' current situations and past experiences. Individuals who are already sexually active often still need formal sex education. As these individuals already possess an experiential base for learning, education can sometimes proceed more quickly" (p. 185).

Sobsey (1994) also suggests drawing on a variety of resources and techniques. He suggests an eclectic approach to education, although community-based training and

learning methods are absolutely necessary for some of the learning goals essential to risk reduction. Nonetheless, the infrequency of certain natural learning opportunities, along with some of the associated risks, makes it impossible to teach all of these skills in their natural contexts. Therefore, simulation, vicarious learning through stories or audiovisual materials, and a variety of other formats for instructional delivery must be included in the educational programme. For many teaching objectives and for many students, generic personal safety materials designed without consideration of disability are valuable educational resources, but for most students with disabilities, additional instruction and support will be necessary and some of the materials will require modification. For other participants, programmes specifically designed for individuals who have disabilities will be the best resources.

Visuals are also essential to helping the participant to understand and remember. When using visuals, however, Jacobs et al. (1989) suggest to keep in mind the importance of being as concrete as possible. "If you put a condom on a banana, so might the person with a developmental disability" (p. 235). Monat-Haller (1992) states that sex education for individuals who have developmental disabilities must be explicit. Verbal content needs to be in simple language suited to students' vocabularies and learning styles, and visual aids such as pictures, videotapes, books, and dolls are also essential.

Sobsey (1994) states that many curricula have worthwhile components that are well suited to a wide range of students, but all curricula also appear to have some areas of weakness. He contends that group instruction is ideal for many objectives related to personal safety because it allows for discussion, and participants often learn as much from each other as they do from the instructor. Groups involving people with a full

spectrum of abilities often work well. However, some students need individualized instruction on specific objectives. Consequently, no simple rule makes one programme or approach the best for every student, every content area, or every situation. Sobsey (1994) again stresses that good programmes need to be eclectic in order to take advantage of the best available tools for each objective and to individualize them for each student.

With regards to AIDS education, Jacobs et al. (1989) agree with Sobsey (1994) and state that educators are well aware that messages about AIDS must be tailored for the specific audience to be trained if the information is to be meaningful. These authors assert that AIDS education entails discussing many topics that most people would rather avoid. Therefore, the first principle for developing an AIDS prevention education programme is to make the trainers and the participants comfortable. Instructors must decide where the discussion should take place (e.g., in the individual's room, the educator's office) and whether a group or individual session would be most appropriate for the specific person. If a group is formed, they believe that individuals who have similar levels of functioning should be grouped together. They also stress that educators must ensure confidentiality and build trust. They must be as nonjudgmental as possible, avoiding value-laden words. "Remember, someone may consider promiscuity to be sex with two persons in 20 years. Others may feel very differently. Also, what is 'dirty' to one person may be quite tame to another" (Jacobs et al., 1989, p. 234).

The atmosphere of a sex education class is also extremely important. According to Monat-Haller (1992), sex education classes should be small, pleasant, and relaxed. Humor is sometimes helpful in reducing anxiety about the topic, but too much joking or humor at inappropriate times can create problems (Sobsey, 1994). Laughing at someone

or the ideas that he or she expresses is likely to hurt feelings and inhibit discussion. Finding humor in everything sexual may be the instructor's way of dealing with his or her own discomfort with the topic and could unintentionally increase anxiety and inappropriate responses to sexuality in the students (Hingsburger, 1990).

Sex education should also be interactive. Participants need information but they also need to express their own reactions and feelings toward the topic. Instructors should be good listeners and able to respond to what they hear (Hingsburger, 1990). Through this interactive process, the instructor can establish what the students are learning, and if there are any misunderstandings, the instructor can then determine what areas require retraining or modification of training. Sobsey (1994) states that incidental learning also has an important role in sex education. When students encounter sexual feelings or interactions in their own lives, these should be discussed with an intent to further their education (Sobsey, 1994). Griffiths (1999) supports this and states that parents and support providers can capitalize on "teachable moments" to teach about different parts of sexuality.

A Need for Clear Assessment of Knowledge, Attitudes, and Skills

There have been numerous sex education programmes developed for individuals who have a developmental disability, however, they have generally not been evaluated (McCabe, 1999; Griffiths, Watson, Lewis, & Stoner, in press). In their study, Coleman and Murphy (1980) found that one-third of the institutions lacked a formal evaluation of their sex education programme. Lumley and Miltenberger (1997) declare that, despite estimates of the prevalence of sexual abuse and compelling arguments for increased risk among individuals who have developmental disabilities, there is little research evaluating

sexual abuse prevention programmes for this population. However, accurate data need to be collected on the sexual knowledge, experience, feelings, and needs of individuals who have a developmental disability across this broad range of areas (McCabe & Schreck, 1992). Only then will there be a valid base from which to construct the curriculum to address the needs of individuals who have a developmental disability.

Lindsay et al. (1992) also state that we know little about the kind of clients who benefit most from a general education course. Researchers do not know whether difference methods are more effective with different clients. They go on to state that there is no evidence on which clients, if any, do not benefit from sex education; and at a very simple level, there is little evidence that clients learn anything from a sex education course. They conclude that "there is very little evidence that clients will acquire and retain this knowledge" (p. 537).

With regards to sexual abuse prevention, Whitehouse and McCabe (1997) contend that many researchers also call for more sex education to be provided to people with intellectual disability as a means of decreasing their vulnerability to sexual assault. However, their concern is that there is no evidence that sex education does in fact decrease the vulnerability of people with intellectual disabilities to sexual assault. More research must be conducted in order to establish the value of sex education for the prevention of sexual abuse.

When studies are performed that actually do investigate the effectiveness of education programmes, Griffiths, Watson, Lewis, and Stoner (in press) have found that the research has a number of methodological flaws. Some of these flaws have included a lack of adequate measures, a lack of pre-post data, a lack of control groups, and no

follow-up data. A summary of Griffiths et al.'s (in press) critiques of sex education can be found in Table 2. However, the most obvious flaw of a large number of studies is the lack of quantitative data (Whitehouse & McCabe, 1997).

Furthermore, of the research that has reported evaluation data, none has reported the effectiveness of sex education in relation to increasing sexual knowledge and enhancing positive attitudes (Whitehouse & McCabe, 1997). In order for effective sex education programmes to be developed, there needs to be a greater emphasis placed on the evaluation of sex education programmes and not just their development. This is supported by Edmonson et al. (1979) who propose that an inventory or a test is needed to determine where to begin with socio-sexual instruction and what has been learned consequent to instruction.

Moreover, there has been some concern that individuals who have developmental disabilities have come out of sexuality education programmes with "sex ed" terminology and rote responses (Hingsburger, 1987). However, they do not have a real understanding of what was said or of how to place their sexual knowledge within the larger context of social functioning (Gilby, 1993). It has been found that these individuals are unable to generalize their knowledge to their everyday functioning.

Many researchers have documented this lack of generalization of skills. Langone, Clees, Oxford, Malone, and Ross (1995) state that the validity of programmes designed to teach social skills depends on the degree to which the target skills taught generalize across conditions such as setting and time. Misra (1992) found that, despite apparent success in increasing the frequency of targeted social skills, researchers have often

Table 2

Design Issues of Sex Education Effectiveness Research

Article	Participants	Design/ Assessment	Findings	Limitations	Comments
Bennett, Vockell, & Vockell (1972)	10 young females; only 7 at posttest. IQs ranged from 58 to 81	Pre/post Sex Information Inventory for Girls	Increased knowledge depends on pretest knowledge. More permissive attitudes expressed after instruction	Quantitative data not reported No control group	Women who had some basic knowledge learned more than those with no prior knowledge
Foxx, McMorrow, Storey, & Rogers (1984)	6 females with moderate to mild IQ	Multiple baseline design across groups Social/sexual skills game used for assessment of skills. Generalization test designed.	Appropriate social responses to sexually-related situations increased during training	Small sample size Only females No control group	
Penny & Chataway (1984)	21 females and 28 males with mild and moderate ID	Prepost measure using sexual vocabulary test (SVT), constructed by researchers 6 teaching sessions	Increase in vocabulary at posttest and further at further posttest No change in attitude	No control group No generalization	No validity or reliability of SVT Discuss "experimenter effect"
Robinson (1984)	83 adults with ID aged 16 ½ to 52 years old. IQs ranged from 50 to 80	Control group PrePost SSKAT	Quantitative analysis of knowledge posttest is positive	Attitudes reported as changed, but no data to support this	No gender analysis
Shapiro & Sheridan (1985)	1 female with mild ID, 30 years old	Assessment designed by researchers Training - multiple probe design across skill areas	Knowledge generalized and maintained over 3 weeks	Limited information about client's history Single case design Limited follow-up time	Instruction on breast assessment, Pap tests, pelvic examinations
Lindsay, Bellshaw, Culross, Staines, & Michie (1992)	Mild or moderate ID Group 1- 46 Group 2- 14 (control group)	Pre post follow-up questionnaire (body parts, masturbation, intercourse, STD, pregnancy, & contraception)	On all measures, group receiving education programme improved their knowledge significantly and maintained to a 3-month follow-up	Do not discuss assessment- refer to Fisher et al. (1973) Do not address generalization to daily life	No discussion of attitude change

(table continues)

Article	Participants	Design/ Assessment	Findings	Limitations	Comments
Lawrence & Swain (1993)	12 males and 5 females. 19-22 years old. No evaluation of IQ or language skills	Semi-structured interview-students interviewed before and after training. Analysis of transcripts of sex education sessions.	Open communication seems to be vital in evaluating the effectiveness of sex education	Unclear if students increased sexual knowledge or developed more positive feelings towards sexuality	Reliability of transcript analysis as evaluation not established No pretest or control group
Scotti, Speaks, Massia, Boggess, & Drabman (1996)	31 persons with severe to mild ID working at a sheltered workshop 61% were female	One group pre-posttest design AIDS Risk Knowledge Test and Sexuality Survey	Participants with mild ID improved significantly pre-to post-, whereas scores for those with moderate disability remained unchanged	Persons with severe disability excluded from the research No control group	5 weeks AIDS-Risk information training (18-20 years old)
Scotti et al. (1997)	13 persons with mild ID 7 females and 6 males	Pre, post, & follow-up using Modified AIDS Risk Knowledge Test (MARKT), Sexual History questionnaire, Role play, Sexual Knowledge test	Increased knowledge at posttest and follow-up Statistically significant improvement in performance on all role plays	Need for revision of several test items and further reliability and validity analyses of measure Small sample size No control group	Testing occurred over a period of 14 months
Bambury, Wilton, & Boyd (1999)	18 adults (15 males and 3 females) 17-46 years. Mild intellectual disability (50-70 IQ)	Pre/Post SSKAT Slide and video-based sex education and attitude programme compared to control group	Those who received slide or video increased significantly in knowledge compared to control group. Attitude change was not significant.	Gender imbalance. No follow-up or generalization.	

(reprinted with permission from Griffiths, Watson, Lewis, & Stoner, in press)

neglected the critical area of generalization and maintenance of gained skills. Griffiths et al. (1995) performed a study where they evaluated three different sex education programmes in terms of their effectiveness. They found that the training programmes showed limited results, especially in the area of generalization of the skills to potentially abusive situations. Following instruction, regardless of the programmes used, there was small incremental change in the knowledge and abuse prevention and the generalization of that knowledge to other situations. However, the improvement did not sustain over time. These researchers believe that the main consideration for effective training should be the ability to demonstrate generalization. Without demonstration of the ability to apply skills, there can be little assurance that the training has produced a change in behaviour.

Griffiths, Feldman, and Tough (1997) have found that there is little evidence demonstrating generalization of trained social skills to real-life situations. Some generalizations have been seen in analogs similar to training situations, but for the most part, meaningful and consistent in vivo generalization has been difficult to obtain. The researchers state:

> As the therapeutic objectives of social skills training are the enhancement of the individual's everyday functioning, community integration, and adjustment, the failure to obtain generalization to real-life social situations is the major limitation of current social skills training technology with persons who have developmental disabilities. It is not surprising that existing social skills training paradigms have often failed to obtain significant generalization because they did not incorporate the basic principles and practices of generalization promotion... (p. 254)

Langone et al. (1995) found that the limited degree of apparent generalization in their study and the inconsistency of the students' responses during the generalization phases suggest that training using generalization promotion activities may have produced greater generalization of responses. Misra (1992) suggests the use of self-monitoring will improve the degree of generalization of social skills. This researcher found that self-monitoring assisted in generalization of trained social skills across settings and people, however maintenance results were variable.

Lumley and Miltenberger (1997) assert that in teaching skills for sexual abuse prevention, it is important to assess the participant's skills before, during, and after the intervention as a means of evaluating progress. They state that in a multicomponent programme, this evaluation may entail assessing progress at the completion of a number of different phases. For example, for a programme containing sex education and assertiveness training components, it is important to assess the participant's skills in these areas after the specific training has taken place through use of a comparison to baseline to demonstrate whether training has been successful. Evaluating progress in this manner allows training to be modified or reinstituted as necessary.

It is also crucial to measure the skills the individual actually utilizes in a target situation (Lumley & Miltenberger, 1997). However, Misra (1992) feels that future studies must include more precise measures to gather information on the social importance of behavioural changes rather than focusing on anecdotal data collected through interviews with individuals in a natural setting. It is also important to remember that in evaluating behavioural skills training procedures, the outcome measure should reflect increases in actual behaviours and skills rather than merely increases in knowledge

(Lumley & Miltenberger, 1997). These researchers advocate the use of in-situ assessment, which involves testing the participant in realistic situations, often without their knowledge. However, this poses many ethical concerns, including possible psychological and emotional trauma to participants. For a more in-depth discussion of in-situ assessment, please see Watson, Griffiths, Richards, and Dykstra (in press).

Edmonson and Wish (1975) found that a test of body terminology is not the equivalent of inferential comprehension of sexual activity. Whitehouse and McCabe (1997) stress the need for evaluation of sexual attitudes. They state that future programmes need to consider the use of both checklists and transcript analysis to cover both the more accurate but more limited assessment of sexual facts, as well as the more complex analysis of feelings and attitudes.

Sobsey (1994) supports this and contends that clear-cut goals and objectives and the periodic assessment of progress are essential to all sex education programmes. Formative assessment, evaluation that occurs regularly as part of instruction and helps to guide the instructional process, is particularly crucial because the objectives are often complex, and the instructor may find that what the student is learning is actually something different than the intended educational goal (Sobsey, 1994).

Assessment Tools

The Socio-Sexual Knowledge and Attitudes Test (Wish et al., 1980) and the Sexual Knowledge, Experience, Feelings and Needs Scale (Sex Ken-ID; McCabe, 1994) are among the few evaluation tools available that measures change in both knowledge and attitude. These measures provide an individually administered evaluation using a picture book to which participants answer minimally demanding verbal questions.

The most comprehensive socio-sexual assessment is the Socio-Sexual Knowledge and Attitude Test (Wish et al., 1980). However, it has been criticized recently because it is time-consuming, requires a high level of skill to administer, is overly complicated in parts but not exhaustive in others, contains many value-laden items, and does not discuss the sexual attitudes of the individual (Edmonson et al., 1979; Forchuk, Martin, & Griffiths, 1995; McCabe, Cummins, & Deeks, 1999). Another critique of the SSKAT is that many of the questions are closed-ended, soliciting a "yes" or "no" response from the individual. This poses concerns for people who have developmental disabilities who tend to answer "yes." It has been found that the individual who has a developmental disability may be more likely to answer yes/no questions in the affirmative, even if the question posed does not make sense (Tudiver, Broekstra, Josselyn, & Barbaree, 1997).

Griffiths and Lunsky (in press) recently solicited feedback from clinicians who use utilize the SSKAT. A questionnaire was sent to individuals who had purchased the test in recent years. The purpose of the questionnaire was to solicit feedback on the use and usefulness of the current tool, the strengths and weaknesses of the content, materials, scoring and structure, and recommendations for change. Forty professionals completed and returned the questionnaire. Their expertise represented over 1,300 applications of the SSKAT. The represented disciplines included psychologists, social workers, other clinicians and counsellors, sex educators, and support and education staff.

Most of the respondents rated the SSKAT as "useful" (54%) and an additional 34% rated it as "invaluable" to "very useful." Ten percent of the respondents indicated that the test was "of little use" and one person no longer used the test. The test has limited use for persons with hearing impairments, with no communication skills, who are

very low or very high functioning. It is of no use to persons who have visual impairments. Furthermore, the length of test requires accommodation for clients with Fetal Alcohol Syndrome, Attention Deficit Disorder, Autism, and Asperger's syndrome.

Most of the respondents also indicated that the current length of time required to administer the test was appropriate (75%), whereas 25% felt it was too lengthy. A brief version was recommended. Respondents also cited strengths and weaknesses of the 1980 SKATT, critiquing content, materials, scoring, and structure.

With regard to content, respondents felt that the SSKAT covers a good range of topics of socio-sexual knowledge and attitudes. They felt that subsections allow for certain topics to be identified and administered separately. The inclusion of different ages also allows for evaluation of age discrimination. However, the test does not determine whether a person can or cannot execute choices. The topics that were repeatedly requested for inclusion included: inappropriate and sexual offending behaviour, abuse, AIDS/HIV, safer sex practices, knowledge that one's body is private and the person has the right to say no, abortion, relationships, sexual health, different sexual acts, and legal issues. Topics of community risk and hitchhiking were suggested to be less important. Respondents also suggested some of the language was out-of-date, and there were few questions that were too challenging.

Testing materials were described as visual, concrete, clear, and allowed choice with minimal reliance on verbal skills. The use of black and white sketches and photos was appreciated by some as realistic enough to enable people to understand but not real enough to make them uncomfortable; however some participants would have preferred

coloured pictures. Many respondents also described the pictures/photos as out of date and of poor quality.

Scoring was generally rated as easy to score and graph. The method of presentation was considered to be a strength by some. However, some respondents found the scoring to be confusing. The most overwhelming criticism was that attitude questions should not be scored. In addition, the test appears to ceiling out too early because there are too few high-end questions. Respondents also felt that knowledge and attitude items should be summarized on the same form. Moreover, there should be room for comments or quotes on the score sheet. There was a concern expressed that giving only a total score implies that the SSKAT is a test, but gives no normative data; only percentiles.

The inclusion of percentiles on the SSKAT is another criticism. In fact, the word, "percentile" is a misnomer because what Wish et al. (1980) actually provide are percentages. Percentages are a derived score, but one that does not have regular mathematical properties like a standard score. At times a researcher may have a more ratio type of a score and by converting it to percentages all they have is an ordinal scale; therefore, power has been lost. When a standard score is derived, a score is made that has regular mathematical properties which correspond to the first derivatives in calculus (i.e., mean, inflection of the curve [sd]). Percentiles are then taken off of the standard scores and then they have some of the properties of the normal curve. Percentiles are also not considered recommended scores for some purposes, though they are better than grade equivalents, which are rarely considered acceptable scores. Consequently, Wish et al.'s (1980) inclusion of percentile data is false due to a misnomer. Moreover, the use of percentages is not recommended for research purposes due to the lack of power.

Structurally, Griffiths and Lunsky (in press) found that the SSKAT was described as easy to follow, administer, and score. Respondents felt that the SSKAT was "user friendly." Most respondents suggested that the questions and stimulus pictures should be combined into an easel-type display for ease of use and that the questions should be included on the answer sheet.

The other most frequently used measure to assess sexuality knowledge and attitudes is the Sex Ken-ID (McCabe, 1994). The Sex Ken-ID is a comprehensive evaluation of the sexual knowledge, experience, feelings, and needs of people with intellectual disabilities and provides a much more updated version for assessment. However it differs significantly from the SSKAT in that it also requests information about experiences. This latter difference may move the Sex Ken-ID past a point of evaluating educational knowledge and attitude and into a clinical range that may not be appropriate for general educational purposes. Less complicated questionnaires (e.g., Ousley & Mesibov, 1991; Timmers, DuCharme, & Jacob, 1981) have been developed, but psychometric evaluation of these measures is lacking (McCabe et al., 1999)

From this literature review, it can therefore be seen that sex education is imperative for individuals who have a developmental disability. There is also an important need for assessment of knowledge, skills, and attitudes of individuals who have a developmental disability toward sexuality before and after sex education. Therefore, the following methodology will attempt to address these issues.

Overview of Subsequent Chapters

The following chapters will discuss the methodology and results of the present study. Chapter 3 will review the methodology, including a description of assessment

tools employed. Chapter 4 will present the results of the study and Chapter 5 will discuss the implications of these results and provide suggestions for future research.

CHAPTER THREE: METHODOLOGY

Research Design

This study will consist of three participant groups. Groups A and B participated in a sexuality education programme, while Group C was a control group. A schematic diagram of the research design can be found in Figure 1.

In this study, it was the intention to run a sexuality education programme for individuals who have a developmental disability. The sexuality classes was run in two separate sessions for two separate groups. The first group of participants, Group A, received a pretest, which consisted of the Socio-Sexual Knowledge and Attitudes Test (SSKAT) and the Socio-Sexual Knowledge and Attitude Assessment Tool (SSKAAT-R). They were also be given the S-Bit, which is an assessment tool to determine IQ. They then had the sex education classes for 6 weeks. Following the sex education classes, they were tested a second time with the SSKAT and SSKAAT-R. The second group of participants, Group B, received a pretest consisting of the SSKAT and the SSKAAT-R. They then had the same sex education classes for 6 weeks. Once the classes were completed, Group B was tested again with the SSKAT and SSKAAT-R.

There was also another participant group, Group C, who served as a control group. They were also individuals who have a developmental disability. This group received the same measures, the SSKAT, the SSKAAT-R, the S-Bit. However, this group of participants did not receive any sex education. They then received the same assessment measures in a 6-week follow-up.

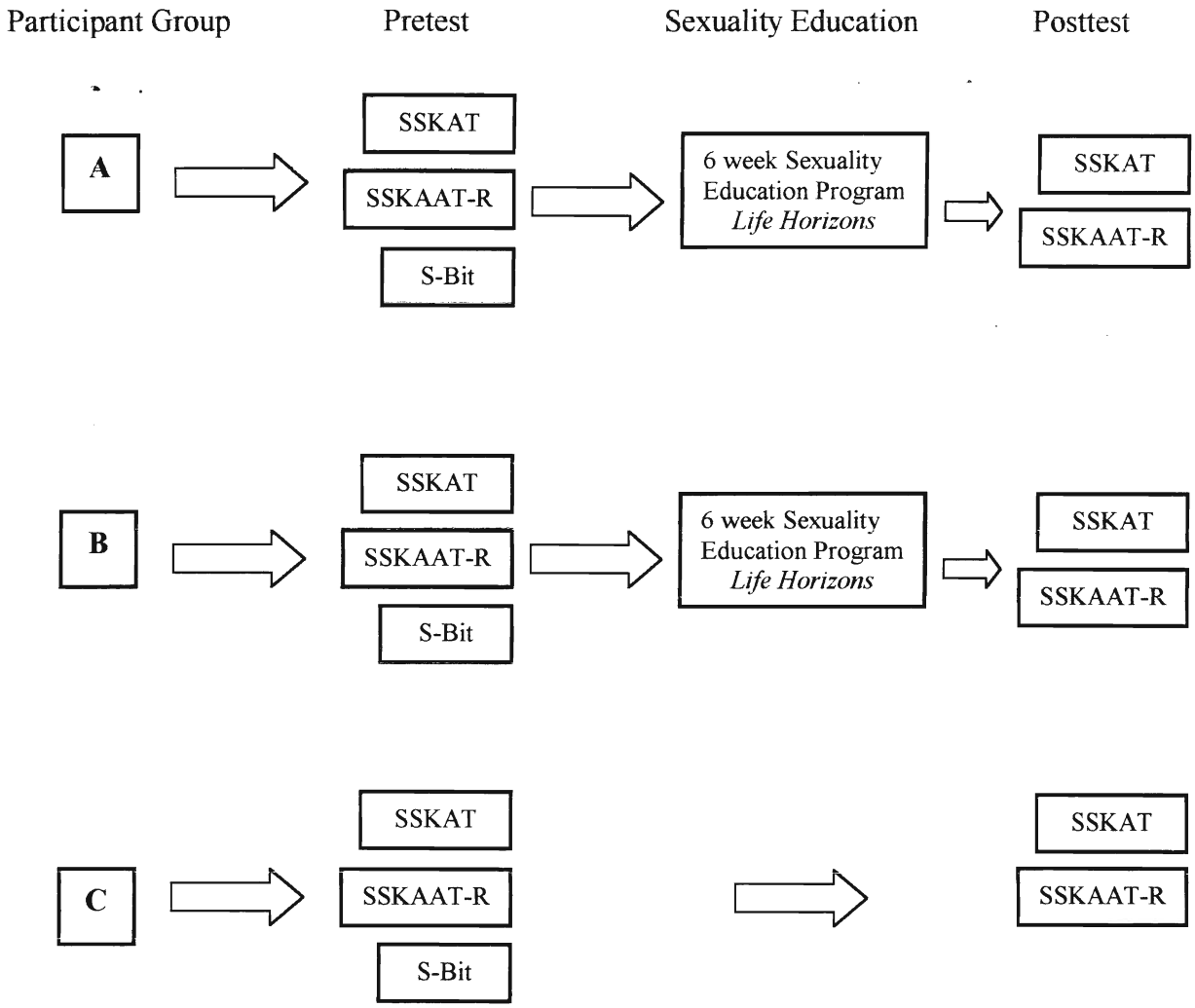

Figure 1. Research methodology.

Lindsay et al. (1992) used a similar methodology in their study of the increases in knowledge following a course of sex education for people with intellectual disabilities. In their study, 46 participants were seen in groups of six to eight and received a programme of sex education lasting around 9 months. These participants were tested before and after the programme. As well, 23 participants were tested at three months follow-up. Fourteen participants served as a control group who were simply tested and retested 4 months later. All participants were tested with a questionnaire comprised of seven sections corresponding roughly to the sex education programme (Lindsay et al. 1992).

Szollos and McCabe (1995) also conducted a study to assess the sexuality knowledge of individuals who have a developmental disability, but this study also looked at the perceptions of caregivers with regard to their clients' knowledge and attitudes toward sexuality. In the study, information regarding the sexuality of participants was obtained through interviewing them directly and then comparing their responses with the perceptions of their caregivers.

Heshusius (1982) also looked at the attitudes and knowledge around the sexuality of individuals who have a developmental disability. However, Heshusius (1982) used a participant observation methodology and literature review in order to come to his findings.

From these method-related studies, it can be seen that other researchers have utilized similar methods as employed in this study. However, the study described in this thesis used various methods in order to consider variables not accounted for in these other studies.

Research Questions

There were four research questions addressed in this study.

1. Is there a change in the levels of knowledge of participants following a sexuality education programme?
2. Are scores on the Stoelting Brief Nonverbal Intelligence Test (S-Bit) correlated with scores on the SSKAT or SSKAAT-R?
3. Are there gender differences in scores on the SSKAT and SSKAAT-R before or after sex education?
4. How does the SSKAAT-R compare with its predecessor (SSKAT)?

Selection of Participants

There were two groups of participants in the study. These included two Sex Education Groups (Groups A and B) and a Control Group. This was because, as discussed in the literature review, class sizes needed to be small due to the intimate nature of the topic and in order to meet the needs of all participants in the class. However, for data analysis, Groups A and B will be collapsed and referred to as the "Sex Education Group"

Groups A and B were individuals who have a developmental disability. They are all individuals who are supported by a community agency in the Niagara region, such as an Association for Community Living. Distribution included a range of IQ levels. Some participants were living in group-home settings, while other were in supported independent living environments. All participants were over 18 years of age. In addition, participants did not have had any previous formal socio-sexual education. The

third group of participants, Group C, were also individuals who have a developmental disability who were matched on the same criteria as Groups A and B.

Participants were accessed through *Connect*, which is the Niagara Social/Sexual Information Sharing "To Better Serve Individuals who have a Developmental Disability." *Connect* is a networking group from the Niagara region that discusses issues of sexuality for individuals who have a developmental disability. Members of *Connect* are support workers and administrators in community agencies that serve individuals who have a developmental disability. They were asked to refer clients whom they believe would benefit from a sex education programme.

Groups A and B were volunteers who wished to participate in sex education classes. Participants were referred by their support workers as outlined in the above paragraph. Although the participants were contacted through a referral process, participation in the study was strictly voluntary. Group C was also be referred by *Connect* for assessment with the SSKAT and the new SSKAAT-R, as well as the S-Bit. This was on a volunteer basis.

Participants

Participants in the study ranged in age from 21 years old to 66 years old, with a mean age of 38. There were 12 females who participated in the study and 20 males, whose S-Bit IQ scores ranged from 36 to 103.

Here, it is important to note that one participant in the study had an IQ of 103, as identified by the S-Bit. This participant has Asperger's Syndrome, which is often thought of as "high-IQ Autism" (Gaus, 2000), as discussed in the literature review. Although this individual would not meet the criteria for mental retardation, he is

considered to have a developmental disability due to his social impairments and is served by a local community living agency. This concern will be further discussed in Chapter 5.

The Sex Education Group (both A and B) was comprised of 6 females and 10 males. The average age of participants was 40 years and the average S-Bit score was 42.19. The control group was also comprised of 6 females and 10 males. The average age of participants was 36 years and the average S-Bit score was 41.25. Thus, both groups were quite evenly matched on demographic information.

Instrumentation

Several measures were used throughout the study. Three tests were utilized, including the SSKAT (Socio-Sexual Knowledge and Attitude Test; Wish et al., 1980), the SSKAAT-R (Socio-Sexual Knowledge and Attitudes Assessment Tool; Griffiths & Lunsky, in press), and the S-Bit (Stoelting Brief Nonverbal Intelligence Test; Roid & Miller, 1999). The sexuality education classes followed a standard sex education curriculum for individuals who have a developmental disability, *Life Horizons* (Kempton, 1988), which will be described in further detail.

The SSKAT

The Socio-Sexual Knowledge and Attitude Test (SSKAT) was developed for individuals who do not have very proficient verbal skills or for those whose speech is unintelligible. Its purpose is to determine what they know or believe about important areas of socio-sexual functioning and their attitudes toward a number of socio-sexual practices (Wish et al., 1980).

Recently, Griffiths and Lunsky (in press) asked clinicians and educators why they most often use the SSKAT. Test users reported two main reasons for administration of

the SSKAT: (i) when there was a concern regarding an inappropriate sexual behaviour (28%); and (ii) as a pretest to socio-sexual education (25%). Other applications for the SSKAT included (iii) as a posttest to socio-sexual education (12%); (iv) as part of an assessment to determine consent capacity for sexual relations (11%); (v) when individuals were entering intimate relations (10%); and (vi) as part of a legal assessment process for sexual assault cases (7%). Additional reasons for administration of the SSKAT included (vii) referrals for sexual problems or (viii) to determine placement for group training in relationships (2%).

The SSKAT includes questions designed to assess both knowledge and attitudes about sexuality. These categories are scored separately. Many of the questions on the test are presented with pictorial aids and often the examinee can respond by pointing to the correct alternative or by indicating "yes" or "no." This format allows the individuals to express knowledge and attitudes in ways that do not rely heavily on verbal skills (Niederbuhl & Morris, 1993).

When the test was first developed, the researchers performed a literature review to search for problem areas in sexuality encountered by individuals who have a developmental disability (Wish et al., 1980). Following that, a questionnaire was distributed to parents, educators, institutional- and community-based clinicians who worked with individuals who had a developmental disability that described the purpose of the proposed test. The questionnaire posed questions as to which areas such a test should investigate, then asked the participants to rate the topics that the researchers had identified in order of importance. Participants were asked to rate each area on a 5-point

scale in terms of definite inclusion, probable inclusion, uncertain, probable exclusion, and definite exclusion.

Wish et al. (1980) then designed the SSKAT, creating subtest areas within the tool. The subtests consisted of areas judged to be relevant by 75% or more of the participants in the questionnaire. These included Anatomy Terminology, Menstruation, Dating, Marriage, Intimacy, Intercourse, Pregnancy- Childrearing, Birth Control, Venereal Disease, Masturbation, Homosexuality, Alcohol and Drugs, Community Risks and Hazards, and Terminology Check. The final SSKAT consisted of 208 questions concerning knowledge, 40 questions concerning attitudes, and 13 questions as to the amount the examinee thought that he or she knew about the subtest area.

To reflect differences in maturity of answers, higher level answers were to be given a 2-point value, less mature answers were to be given a 1-point value, and incorrect answers were to be given a 0. The authors also contended that it was difficult to determine "correct" answers to questions about sexual practices because although questions of terminology and physiological processes are quite clear-cut, responses to other areas such as premarital sex and homosexuality are not. It was felt that multiple perspectives, such as religion and culture may lead to differing prescriptions and tolerances and it was decided that answers to certain questions must be considered as attitudes. Attitudes are classified as either positive (as favouring a practice or as referring to a positive outcome), as negative (as disapproving a practice or as referring to a bad consequence), or as neutral.

Reliability and validity. The SSKAT has been shown to be quite reliable. When Wish et al. (1980) tested the SSKAT, the test-retest mean agreement of subtest scores

across subject on Knowledge items was high, ranging from 78.2% on the Homosexuality subtest to 89.7% agreement on Marriage items. For Attitude items, the average agreement was similarly high, ranging from 76.0% agreement on the Intimacy subtest to 91.5% on the Pregnancy-Childbirth-Childrearing subtest. With regard to how much the participants felt they knew about sexuality, there was less agreement, with a median percent agreement of 67.6%. This shows that the participants' estimation of how much they knew was less consistent than the beliefs and attitudes that they reported.

With regard to internal consistency, it was found that some subjects were more homogeneous than others (Edmonson, Wish, & Fiechtl, 1977). However, Edmonson et al. (1977) felt that it was more important to determine whether a participant knows or does not know the answers to particular questions than whether or not he or she is equally correct or incorrect in responses to other items in the subtests.

When discussing the validity of the SSKAT, it must first be noted that the procedures involved in developing the measure were intended to strengthen its validity. The list of topics was rated by 50 individuals including parents, staff members of an institution, and others with experience in the field of developmental disability, as described previously. Due to the considerable agreement by these participants, Wish et al. (1980) felt that the SSKAT did in fact reflect what it was supposed to measure. Wish et al. (1980) also state that predictive validity, or the extent to which a person's socio-sexual knowledge or his or her attitudes toward certain practices may be related to carelessness or the prudence of their sexual behaviour would require specific investigation.

Since Wish et al. (1979) tested the SSKAT, the test has been revised, omitting questions regarding how much the participant felt they knew about certain subjects. The test now consists of 167 knowledge questions and 39 questions concerning attitudes. However, Wish et al. (1980) felt that these minor changes would have a minimal effect on the test-retest reliability or the validity of the instrument.

The SSKAAT-R

As has been stated above, the SSKAAT-R is a revision of Wish et al.'s (1980) SSKAT. Most of the topics covered in the 1980 SSKAT have been included in the new SSKAAT-R, with the exception of several items on alcohol and drug use as well as other community risks and hazards. However, additional items have been added on topics of HIV/AIDS, sexual health, menopause, age discrimination, appropriate/ inappropriate touch, and greater diversity in sexual activities. Decisions regarding what to include and exclude on the new measure were based on feedback from experts in the field of developmental disability, as well as users of the original instrument.

As discussed above, Wish et al. distributed a questionnaire to 50 persons in 1979 regarding the priorities for inclusion in sexuality assessment and education. In 1999, Griffiths and Lunsky redistributed the Wish et al. (1979) questionnaire to 80 parents, educators, and institutional and community based clinicians of persons with developmental disabilities. Distribution of the questionnaire occurred at four educational events on the topic of sexuality and persons with developmental disabilities. The participation of the respondents was entirely voluntary and anonymous. Using a 5-point Likert-type scale, respondents were asked to rate each area as to relevance in terms of

definite inclusion (5), probable inclusion (4), uncertain (3), probable exclusion (2), or definite exclusion (1). Eighty respondents completed the 1999 questionnaire.

Over 20 years, there was an overall shift in ratings of inclusiveness. The overall average rating of items for definite inclusion was 68.85% (range 31.25%-96.25%) in the 1999 version. This compares to an average of 59.50% (range 28-84%) in 1979. Therefore, there was a general shift upward in definitiveness for inclusion of various topics with the upper range shifting by 12.25%. In addition, the percentage of respondents who were uncertain decreased from 9.72% (range 2-28%) in 1979 to 6.6% (range 0-28.75%) in 1999.

There were dramatic shifts in definite inclusion on three items, as follows:

1) Street pick-up reduced as a priority for inclusion for assessment and education from 80% in 1979 to only 56.25% in 1999, whereas
2) Masturbation increased as a definite priority for inclusion from 64% in 1979 to 96.25% in 1999, and
3) Going steady increased as a definite priority for inclusion from 48% in 1979 to 77.5% in 1999.

In general, the same topics were considered important for inclusion in both time periods. There was an overall trend of increased certainty about the inclusion of the entire range of items for sexuality assessment and education. The only categories that were rated as less important in 1999 were childbirth, marital procedures and responsibilities, child-rearing, hitchhiking, cursing, voyeurism, and going steady.

The priorities for inclusion in socio-sexual assessment and education also shifted

between the 1979 and 1999 samples. As depicted in Table 3, some topics remained within the top 10 in priority rating. These included the following:

1) Intercourse (rated by 91.24% for definite inclusion in 1999 and 84% for definite inclusion in 1979);
2) Venereal disease, both how to contact and who to tell (rated by 90% of respondents for definite inclusion in 1999, compared to 84% in 1979) and Pregnancy, prevention, and conception (87.5% in 1999 compared to 84% in 1979); and
3) Inappropriate Sexual Contact (rated by 87.5% for definite inclusion in 1999 and 82% in 1979).

Consequently, 6 of the 10 top items for inclusion in the socio-sexual assessment and education remained unchanged from 1979 to 1999. However, in all cases the percentage of respondents who were definite about the inclusion of these items increased.

The items that moved out of the top 10 priorities for socio-sexual education and assessment included dating, street pick-ups and birth control. It should be noted that dating and birth control still remained high in the rating of definite inclusion at 86.25% each. Furthermore, in both cases the ratings for definite inclusion increased slightly on both items since 1979, even though they were no longer among the top 10 items. This shift therefore represents an increase in priority of other items in the 1999 sample, rather than a decrease in emphasis on either dating or birth control information.

There were also major shifts in overall ratings of inclusiveness noted. Although in many cases the various items valued for inclusion in 1979 and 1999 remained unchanged, the relative ratings for their inclusion shifted dramatically in some cases. Table 4 indicates the shifts in ratings between the two studies.

Table 3

Top 10 Priority Listing for Definite Inclusion in Socio-Sexual Assessment from 1999 to 1979

	1999	1979
1.	Masturbation (96.25%)	Birth control information (84%)
2.	Body parts (93.75%)	Intercourse (84%)
3.	Intercourse (91.25%)	Venereal disease –how to catch (84%)
4.	Venereal disease -how to catch (90%)	Venereal disease –symptoms (84%)
5.	Venereal disease –who to tell (90%)	Venereal disease -who to tell (84%)
6.	Pregnancy- how to prevent (90%)	Pregnancy- how to get (84%)
7.	Venereal disease-symptoms (88.75%)	Pregnancy- how to prevent (84%)
8.	Pregnancy- how to get (87.5%)	Inappropriate physical contact (82%)
9.	Rape (87.5%)	Street pick-ups (80%)
10.	Inappropriate physical contact (87.5%)	Dating (74%) and Body parts (74%)

(reprinted with permission from Griffiths & Lunsky, 2000)

Table 4

Major shifts in ratings from 1979 to 1999

	PROBABLE PLUS DEFINITE RATINGS	DEFINITE RATINGS
Increased ratings for inclusion > 20%		Going steady Masturbation
Increased ratings for inclusion 15-20%	Marital procedures and responsibilities Adult movies and literature Nudity and exposure	Body parts Rape Incest and other Inappropriate sexual contact Nudity and exposure
Increased ratings for inclusion 10-15%	Pregnancy -what to do if -how to prevent Childbirth Extramarital contacts/ limits Going steady Engagement	Homosexuality Extramarital contact/limits Dating Engagement Adult movies and literature
Decreased rating for inclusion > 20%		Street pick-ups
Decreased rating for inclusion 15-20%		Marriage (general)
Decreased rating for inclusion 10-15%	Hitchhiking Cursing	Premarital sexual contact Suggestibility to dares
Decreased ratings of uncertainty > 10%	Adult movies and literature	
Increased ratings of uncertainty .> 10%	Cursing Going steady	

(reprinted with permission from Griffiths & Lunsky, 2000)

The subtle shifts in inclusion ratings fall into the following categories. There was an increased recognition of the importance of the following:

- pregnancy and childbirth
- body part identification
- relationships (extramarital contact/limits, dating, engagement), but not necessarily marriage or premarital sexual contact
- vulnerability issues (rape, incest, inappropriate sexual contact, and nudity and exposure) and understanding that the risk is not necessarily a vulnerability in the individual (suggestibility to dares), nor primarily found in stranger situations (hitchhiking or street pick-ups)
- sexual diversity issues (homosexuality and adult movies and literature) and less uncertainty regarding the inclusion of adult movies and literature in assessment and education.

The findings from the 1999 survey reflect similar results to the 1979 survey. However, this is tempered by a less conservative time in society, as evidenced by the increased inclusion of diversity (homosexuality, masturbation, adult films and literature, and a range of possible relationships) in the 1999 survey. Present findings demonstrated similar results to the 1979 survey, with a general trend toward greater inclusion of all items. There was increased acceptance of diversity in sexual expression and relationships in the 1999 version. Sexual risks as evidenced by suggestibility and hitchhiking were replaced in priority by an emphasis on sexual exploitation and abuse, such as incest and rape. Findings from the current survey reflect both changes in society and in the field of developmental disabilities.

Changes in the new measure. Perhaps the most important change to the new measure is that it is not a test. The original measure was described as a test, but this was misleading because a test would require norms. The old SSKAT describes percentiles that were actually percentages, as described in the literature review. The new SSKAAT-R is referred to as an "assessment tool," which is more indicative of its purpose.

Topics on the SSKAAT-R are another area that has had many changes from the SSKAT. The original SSKAT had 14 sections. As mentioned above, they included Anatomy terminology, Menstruation, Dating, Marriage, Intimacy, Intercourse, Pregnancy, Childbirth and childrearing, Birth control, Masturbation, Homosexuality, Venereal disease, Alcohol and drugs, Community risks and hazards, and Terminology check. The New SSKAAT-R has only seven subtests: Anatomy, Male bodies, Female bodies, Intimacy, Pregnancy, Childbirth and childrearing, Birth control and STDs, and Healthy sexual boundaries.

Most of the topics covered in the 1979 SSKAT have been included in the new SSKAAT-R, with the exception of much of Alcohol and drugs and Community risks and hazards. However, additional items have been added, such as AIDS, sexual health, menopause, age discrimination, appropriate/inappropriate touch, and a range of sexual acts. A summary of topics included in the revised SSKAAT-R can be found in Table 5

The pictures and sketches in the new SSKAAT-R have also been updated. The sketches have been produced with minimal background sketch lines to eliminate figure/ ground confusion.

Table 5

Comparison of the SSKAT and SSKAAT-R

New SSKAAT-R	Areas included	Comparison to SSKAT
1. Anatomy (12 questions)	(i) Discrimination of sexes (ii) Discrimination of sexual differences between children and adults (iii) identification of body parts (iv) function of sexual body parts	Anatomy terminology (similar with however new version has included discrimination of differences between children and adults).
2. Women's Bodies *FOR WOMEN ONLY* (31 questions)	Evaluates: (i) privacy awareness, (ii) menstruation, including practical exercise, (iii) menopause, (iv) female masturbation (optional), (v) erotica (optional), (vi) sexual health	These areas were dealt with in separate sections in the old version: Menstruation and Masturbation. Issues of privacy, menopause, erotica, and sexual health were not dealt with in the old version.
3. Men's Bodies *FOR MEN ONLY* (22 questions)	Evaluates: (i) privacy awareness, (ii) erection, (iii) male masturbation (optional), (iv) ejaculation, (v) erotica (optional), (vi) male sexual health.	Includes topics previous covered in masturbation section of old version. Issues of privacy, erection, ejaculation, sexual health, and erotica are new topics.
4. Intimacy (35 questions)	(i) dating, (ii) marriage, (iii) handholding, (iv) hugging, (v) kissing, (vi) necking, (vii) naked touching, (viii) sexual intercourse, (ix) anal intercourse, (x) oral intercourse, (xi) orgasm, (xii) homosexual relationships	Includes items previously covered under dating, marriage, intimacy, intercourse, and homosexuality in old version. However, they included under intimacy, issues which the new version now deals with as sexual boundary questions and pregnancy questions- see sections listed below.

(table continues)

New SSKAAT-R	Areas included	Comparison to SSKAT
5. Pregnancy, Childbirth and Childrearing (32 questions)	Evaluates: (i) who can get pregnant/make a baby, (ii) what to do if pregnant, (iii) childbirth, (iv) baby care, (v) adoption, (vi) abortion (optional), (vii) miscarriage	Previously included in Pregnancy, Childbirth and Childrearing section.
6. Birth Control and STDs (35 questions)	(i) types of birth control, (ii) abstinence, (iii) sterilization, (iv) birth control pills, (v) condoms/ spermicide including optional practical exercise on condom use, (vi) STDs/AIDS, (vii) Disease protection,	Old version covered this combined topic in two separate sections Birth control and Venereal disease. The birth control methods have been streamlined to include only those more commonly used. Disease information has been updated and includes AIDS and disease protection. Abstinence has been added as an option.
7. Healthy Sexual Boundaries (27 questions)	Evaluates: (i) Age/Sex identification, (ii) Appropriate partners, (iii) Inappropriate and appropriate touch, (iv) Consenting touch, (v) Touch for money, (vi) Touch by staff, (vii) Touch by family, (viii) Public and private behaviour, (ix) Age-inappropriate interaction, (x) Forced sexual contact, (xi) Reporting unwanted sexual contact/ the law and consequences	Previously covered within sections on intimacy and sexual intercourse and community risks and hazards. However, the nature of inappropriate touch (age, relationship, consent, force) and consequences of this are now explored. This is virtually a missing topic in the old version and reflects a change in knowledge and attitudes towards sexual abuse or assault against persons with intellectual disabilities and empowerment of rights.

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The nature of questioning has also been modified. More simplified questions have been used. For example, instead of asking "What is special about this woman?", the new SSKAAT-R asks "Show me the woman who is pregnant? How do you know?" (p. 33).

The assessment of attitudes has also been changed. Attitude questions are still included, but they are not scored as correct or incorrect. There is also a separate form included for recording attitudes.

Overall, the new SSKAAT-R has less redundancy. Instead of pointing to different people and asking 6 times "Is this person a good babysitter?", Griffiths and Lunsky have asked "Point to the person (from 4 pictures) who would be a good babysitter" (p. 49).

When introducing difficult topics of appropriate and inappropriate touch and interaction, Griffiths and Lunsky have changed questions to ask, "What is happening here?" in response to a stimulus picture. Participants may also be provided a scenario, such as "Mary and John are on their second date. Mary likes John very much and wants to kiss John. Is it OK for John to kiss her?" (p. 80).

It must also be noted that in the final version there will be opportunity to adjust the test to account for individuals who may not need evaluation on all topics. There are core questions for all participants. There are also advanced questions that delve into topics in more depth. Last, there are questions that may be optional because of the sensitive nature of the topic.

Finally, the organization of the SSKAAT-R has also been changed. The stimulus pictures are now mounted in an easel-type binder and the questions are included in this book. Furthermore, there are separate cards that can be sorted and pointed to.

Reliability and validity. The present study is a pilot of the SSKAAT-R in order to determine its psychometric properties. Therefore, there are no reliability and validity data at present. However, the present study will provide some initial levels of reliability.

The S-Bit

The S-Bit (Stoelting Brief Nonverbal Intelligence Test) is an individually administered screening test designed to assess cognitive functions. The goal of developing this instrument was to construct a reliable and valid nonverbal, nonlanguage measure of intellectual ability, useful for brief screening of general-ability level (Roid & Miller, 1999). The S-Bit was also designed to meet the growing need for nonverbal cognitive assessment. Research on this measure has demonstrated no bias for ethnic groups of non-English speakers; therefore the S-Bit provides an alternative to traditional intelligence tests. Some of the groups for whom the S-Bit was specifically developed include those with significant communication disorders, cognitive delay, English as a second language, hearing impairments, motor impairments, traumatic brain injury, attention deficit disorder, and certain types of learning disabilities. Furthermore, the S-Bit is recommended for brief assessments in research projects, dissertations, and theses (Roid & Miller, 1999).

The S-Bit includes four subtests: Figure Ground, Form Completion, Sequential Order, and Repeated Patterns. Also included is a comprehensive Examiner Rating Scale, which provides multidimensional observation of "test session behaviours." Test

materials include a comprehensive stimulus easel, which includes the examiner's administration instructions, response picture cards, examiner's manual, and record/profile forms. The S-Bit employs a response mode that requires no speaking or expressive language. To respond, the participant places the cards near the bottom of the stimulus easel or points to picture on the easel.

Nonverbal intellectual abilities measured by the S-Bit are those mental and cognitive skills and aptitudes involving a multitude of functions such as reasoning, spatial and two-dimensional visualization, concentration for complex tasks, and efficiency in processing complex information (Roid & Miller, 1999). Nonverbal cognitive abilities do not require proficiency in perceiving, manipulating, and reasoning with words or numbers, printed materials, or using any other materials traditionally identified as "verbal." Nonverbal abilities are tested with pictures, figural illustrations, and coded symbols, and all administration instructions are adapted to a nonverbal (gestural and pantomime) format.

The S-Bit is a modification of the Leiter (Leiter, 1979) and the goal was to construct and analyze a new nonverbal brief IQ scale that would retain the strengths of the Leiter yet ensure the psychometric integrity of the new scale (Roid & Miller, 1999). Several limitations of the original Leiter were recognized, including the need for a rigorous national standardization, the need for reliability and validity studies, and the need to create a method for administration which could be adapted to individuals with motor disabilities. The original Leiter has since been updated and the Leiter-R (Roid & Miller, 1997) was created.

Reliability and validity. Each subtest was carefully scrutinized by the 60 examiners in the tryout phase, and the 114 examiners in the standardization phase, to assure that the materials in each subtest could be administered in a nonverbal and nonlanguage mode; thus verifying the nonverbal characteristic of each subtest (Roid & Miller, 1999).

Pilot versions of each subtest were examined, followed by administration to 550 individuals, ages 2 to 20 (Tryout Edition) and 983 typical individuals and 562 atypical individuals, ages 6 to 20 (Standardization Edition), from representative socioeconomic status and ethnic backgrounds. Studies of internal reliability, factor analysis, and item and test bias were conducted on both the Tryout and Standardization Editions and were used to establish subtests reflective of major nonverbal cognitive factors with high internal consistency (Roid & Miller, 1999).

The S-Bit shows consistent evidence of validity from content-analysis studies with extensive item analysis data, criterion-related studies. With regard to content validity, rigorous item analyses were conducted on both the Tryout and Standardization Editions of the S-Bit (Roid & Miller, 1999). Additionally, extensive analyses of items, using item-response theory, were completed at both phases of test development and in the final adjustments of subtests for the published edition. Content-related evidence of validity was established by a combination of careful IRT analysis, item selection or item development based on review of the literature, factor verification (to establish consistency with intelligence theory), expert review, and empirical studies of internal consistency (Roid & Miller, 1999).

The S-Bit has also been tested for concurrent validity with the original Leiter. Using a sample of 81 children and adolescents, ages 6 to 10, participants were given both the original Leiter, the Leiter-R, and the S-Bit (Roid & Miller, 1999). The correlation between the original Leiter and the S-Bit was quite high (.87). The means on the two full IQ scales, however, differed by 11.4 points.

The S-Bit has also been tested for concurrent validity with the Weschler Intelligence Scale for Individuals (WISC-III) using a sample of 122 children, ages 6 to 16. Participants in this study were given both the S-Bit and the WISC-III. Results showed that the S-Bit scores correlate at a consistently high level with the WISK-III Full Scale IQ and the Performance IQ (.85), as well as the factors of Freedom from Distractibility and Processing Speed (.87 and .89; Roid & Miller, 1999).

The S-Bit has also shown to be quite reliable. The average reliability for each of the subtests is as follows: Figure Ground (r =.76), Form Completion (r =.86), Sequential Order (r = .76), and Repeated Patterns (r = .75). With regard to reliabilities of IQ and Composite Scores, the reliability is .90 (Roid & Miller, 1999).

In a sample of 106 participants, test-retest reliability coefficients were obtained. The average testing time between testing times was 14 days and the range was from 10 to 25 days. In this study, the IQ scores show very high stability (above .91; Roid & Miller, 1999).

It must be noted that the S-Bit was not designed for use with adults. The norms for this scale end at 21 years of age. However, the Growth Scales were specifically designed as a criterion-referenced scale that can apply to all ages (G. Roid, personal communication, July 17, 2001). Moreover, it has been found that ratio IQ is extremely

valid in correlating with other IQ measures and in separating normative from clinical groups including cognitive delay and mental retardation (Roid & Woodcock, 2000). In communication with the author of the S-Bit, he stated that "due to all the research verifying the Leiter-R/S-Bit scales, I feel strongly that you are safe in using the 21-year norms... and even the ration-IQ for the study" (G. Roid, personal communication, July 17, 2001).

Life Horizons

Life Horizons is a comprehensive series of slides that is designed to teach individuals who have a developmental disability about sexuality. This was the curriculum that was used in the 6-week sex education programme. The slides are divided into two components: *Life Horizons I* and *Life Horizons II*. *Life Horizons I* (Kempton & Stanfield, 1988a) is a five-part series of more than 500 slides dealing with the Physiological and Emotional Aspects of Being Male and Female. *Life Horizons II* is a seven-part series dealing with the Moral, Social and Legal Aspects of Sexuality and Mental Health.

In *Life Horizons I*, there are five sets of slides, including Male and Female Parts of the Body, the Sexual Life Cycle, Human Reproduction, Birth Control or Regulation of Fertility, Sexually Transmitted Diseases and AIDS. The outline of the sets is as follows:

Set 1: Parts of the Male and Female Bodies. This set of slides outlines the uses and roles of each body part, labeling each part in medical and slang and colloquial terminology.

Set 2: The Sexual Life Cycle. This set of slides traces the emotional and physiological development of men and women from birth to death, with emphasis on sexual changes

that are influential and unique to each sex. Included in the set are early childhood, changes of puberty, early adulthood, middle life, mid-life crises, aging, dealing with dying, and death.

Set 3: Human Reproduction. This set of slides explains the process of reproduction as well as the emotional and physiological aspects of sexual intercourse. How conception occurs, the growth of the fetus in the uterus, and the stages and care of mother during pregnancy are also included. Finally, labour and the birth process are addressed, ending with the birth of the baby.

Set 4: Birth Control or Regulation of Fertility. This set of slides includes explanations of all methods of birth control, concentrating on The Pill, IUD, and condom. The slides also introduce discussion of sterilization and abortion.

Set 5: Sexual Health. This set of slides discusses reproductive health and sexually transmitted diseases. The slides represent the importance of good health habits in keeping not only sexual parts well and healthy, but the entire body as well. The slides also depict the various processes of medical examinations for men and women to detect various diseases or illnesses that attack the body's reproductive or elimination systems. Detailed slides with explanation of the main sexually transmitted diseases (STDs) including AIDS, herpes simplex, syphilis, and gonorrhea are also provided.

In *Life Horizons II (*Stanfield & Kempton, 1988b), which consists of 600 slides, there are seven sets of slides. Its components consist of Building Self-Esteem and Establishing Relationships; Moral, Legal, and Social Aspects of Sexual Behaviour (for Males and Females); Dating, Values, Skills and Learning to Love; Marriage and Other

Adult Lifestyles; and Preventing or Coping with Sexual Abuse. The slides consist of the following information:

Set 1: Building Self-Esteem and Establishing Relationships. In this set, slides depict: (1) Simple methods of projecting one's self-esteem by manner of posture, moving, dressing, speaking, and personal habits; (2) Facing and coping with one's own disability, understanding and accepting the disabilities of other people; (3) Being aware of the feelings of others as well as understanding our own feelings and how to express them appropriately; (4) Good manners; and (5) The process of forming family, friendly, professional, working, and other relationships.

Set 2: Appropriate Male Social-Sexual Behaviour- Moral and legal aspects. In this set, slides are intended to stimulate discussion and role-playing around self-care, personal habits, and task analysis for toileting. Appropriate and inappropriate behaviour with others and the differences of public and private places and behaviour are also addressed. Moreover, the sets address warnings on behaviour considered illegal and possible consequences if indulged in.

Set 3: Appropriate Female Social-Sexual Behaviour- Moral and legal aspects. The same outline as the above set of slides is presented, with considerations relating to women.

Set 4: Dating. Values, Skills, and Learning to Love. Slides in this set are intended to stimulate discussion on various feelings involving various relationships and expressing them appropriately. Whom to date, activities, proper dress and manners, and levels of loving and lovemaking in opposite and same-sex relationships are also included.

Set 5: Marriage and Other Lifestyles. This set of slides depicts various lifestyles available for today's adults. This includes living alone, one same-sex roommate without romance, heterosexual couple living together without marriage, homosexual couple living together, living with families, group living center. Marriage is given the most consideration.

Set 6: The Responsibilities of Parenting. This set of slides presents the responsibilities of parenthood from an offspring's birth until death. It is not intended to teach the participants to be parents, but rather to help them come to the realization that, along with the pleasures, the life of a parent can consist of trials, tribulations, and hard work.

Set 7: Preventing and/or Coping with Sexual Exploitation, Molestation, and Abuse. Main topics of these slides include; (1) Who are the victims of sexual molesters?; (2) How to be safe from offenders in your home; (3) How to respond to strangers who approach you; (4) How to respond to a potential sex offender you know; (5) How to report a sex offender; (6) How to deal with rape and the aftermath of other serious assaults; (7) How to deal with abuse by family members or other people you know; (8) "Wrong" feelings with "wrong" persons; (9) The rules of intimacy with family members, including the topics of privacy, sleeping and toilet arrangements, etc.; (10) Tricks used by sex offenders; (11) "Right" and "wrong" secrets; (12) Dealing with guilty feelings; (13) Who to tell and how to tell about abuse (Kempton, 1993).

The *Life Horizons* series is also accompanied by an excellent curriculum entitled *Socialization and Sex Education: Life Horizons Curriculum Module* (Rodriguez Rouse & Pence Birch, 1991). This guide offers 31 lesson plans with step-by-step teaching

instructions keyed to specific slides within the entire *Life Horizons* series. This curriculum module will be followed for the sexuality education classes.

Life Horizons I and II were originally written and photographed in 1972. At that time, the slide-script presentations were field tested for 3 years, revised and rephotographed, and then it was tested again for 2 years. Since then, the slides have been used not only in North America, but also in Australia, Asia, the Middle East, and many European countries. Since 1972, the slides have been revised and expanded. Throughout the 2 years that the new slides were being created, Kempton (1988) consulted experts in the field of developmental disability, medical authorities, and consultants. This was all intended to ensure that the new revised *Life Horizons* was accurate, factual, and would suit the needs of individuals who have a developmental disability. *Life Horizons* is presently one of the most well-used and respected forms of sex education for individuals who have a developmental disability.

It is important to note that due to the time constraints of this thesis, not all areas of the *Life Horizons* curriculum were taught. The areas covered in the classes were selected by the sex education class facilitators, not the researcher. This was to ensure that the facilitators were not gearing their teaching to areas covered on the SSKAAT-R or the SSKAT.

Data Collection and Recording

Data collection occurred in several sets of evaluation procedures. Before sex education began, all participants in Groups A, B, and C were given a test to assess their knowledge and attitudes toward sexuality. Groups A, B, and C were assessed using the SSKAT, SSKAAT-R, and S-Bit. Scores on these measures were recorded on the

standard testing sheets as found in Appendices A, B, and C respectively. Following sex education, Groups A and B were re-tested with the SSKAT and SSKAAT-R. The Control Group was also reassessed with the SSKAT and SSKAAT-R in a 6-week follow-up.

Data Analysis

Due to the various methods employed for collecting data, there were different forms of data analysis. When looking at the participants' scores on the SSKAT and the SSKAAT-R, mean scores and standard deviations of knowledge and attitudes were computed. This was performed for both the pre- and post-assessments. Furthermore, when comparing the participants' change in score, an analysis of variance (ANOVA) was utilized. An ANOVA was employed for comparing scores on the SSKAT and the SSKAAT-R. An ANOVA was chosen because this method of analysis dealt with differences between sample means, but had no restriction on the number of means. Moreover, the analysis of variance allows one to deal with two or more independent variables simultaneously (Howell, 1995). The use of *t*-test was also employed to compare within group differences. This test was chosen because it yields the most power when a large sample is used (G. Anderson, personal communication, July 16, 2001). In addition, a 2 X 2 repeated measures ANOVA was utilized to see the relationship between SSKAT, SSKAAT-R, and S-Bit scores.

Limitations of Methodology

There are a few limitations to the methodology employed. First, there were individuals of varying levels of IQ participating in the study. They were also from diverse backgrounds, living in different types of supportive environments. Moreover,

genetic diagnosis were not available for most participants. Consequently, it was impossible to have a homogeneous group participating in the study. However, to help compensate for this, participants must not have had any formal sexuality training in order to participate in the study. In addition, there was a control group of individuals who did not receive the *Life Horizons* sex education. It was therefore possible to see if there is a change between the SSKAT and SSKAAT-R scores due to a familiarity with the test.

A final limitation is that there was to be no 3-month or 6-month follow-up assessment after the sex education classes were completed. Consequently, it will not be established if the information was generalized or lost after completing the programme. This limitation is due to time constraints of the researcher's thesis. Once the thesis is completed, it is suggested that a 3-month and 6-month follow-up be conducted.

Establishing Credibility

As described before, the SSKAT is a widely recognized measure for assessing the sexuality and attitudes of individuals who have a developmental disability. It was created in 1980 and is one of the most broadly used tool for this form of assessment. However, because the SSKAT was created in 1980, it is out of date and may not be representative of all of the sexuality concerns of individuals in the year 2001. Consequently, Griffiths and Lunsky (in press) have updated the measure, creating the SSKAAT-R. This new measure should be more representative of sexuality concerns and issues for the future.

Life Horizons is a very respected sex education curriculum for individuals who have a developmental disability. It too has been updated from its original format of 1972. *Life Horizons* is used worldwide and has been shown to be quite beneficial in teaching individuals who have a developmental disability about sexuality.

Ethical Considerations

Before taking part in the study, all participants provided informed consent. For consent forms, please see Appendices D and E. Participants were constantly informed of what their involvement in the study entailed. Classroom participants were informed that they would be involved in a 6-week sex education programme and would be asked questions about their understanding of sexuality.

There were no physical risks associated with this study. Some participants may have felt uncomfortable discussing some of the topics regarding sexuality, but they were not asked to offer any personal information about their own sexual experiences. They were simply asked to explain what they thought and what they knew about certain topic areas. Participation in the study was also strictly voluntary, so participants had expressed a desire to discuss and learn more about sexuality.

Throughout the study, participants were reminded that they did not have to answer any questions that made them uncomfortable. They could take breaks at any time during the assessment times or during the sexuality education classes. If an individual did in fact become upset by an experience, he or she was asked if they wished to talk about it or if they wished to talk to someone else about it. They were also asked if the interviewer or facilitator may mention to their support provider what has occurred so that they could be taken care of after the interview or class. Participants also had the option to stop the testing or the sexuality education classes and could do so without question. Participants were not coerced to continue with the testing nor with the sex education classes.

Interviews and classes were not anonymous, as that was not possible. However, none of the participants' answers were shared with their support providers or with any of the other participants in the study. Furthermore, the data collected will be stored with identification numbers and not by name. All original data will be held at Brock University for 7 years and then shredded. For data presentation, participant numbers were given to research participants.

Overview of Subsequent Chapters

The remainder of this paper will exhibit and discuss the findings of the present study. Chapter 4 will include presentation of the findings in response to the four research questions. Chapter 5 will discuss the implications of these findings, limitations of the research, and recommendations for future research inquiry.

CHAPTER FOUR: DATA ANALYSIS AND INTERPRETATION

The following chapter will present the results of the study. This will include a review of methodology and participants. Following this, the four research questions will be discussed, with presentation of research findings.

As discussed in Chapter 3, 32 participants who have developmental disabilities received the S-Bit, the SSKAT, and the SSKAAT-R. Sixteen individuals were in the control group, while 16 participants received a 6-week sex education programme, *Life Horizons*. Following the sex education programme, participants were reassessed using the SSKAT and SSKAAT-R. Participants in the control group were also reassessed using the SSKAT and SSAAT in a 6-week follow-up.

Participants

Participants in the study ranged in age from 21 years old to 66 years old, with a mean of 38. There were 12 females who participated in the study and 20 males, whose S-Bit IQ scores ranged from 36 to 103. The mean IQ of participants was 41.72.

The sex education group was comprised of 6 females and 10 males. The average age of participants was 40 years of age and the average S-Bit score was 42.19. The control group was also comprised of 6 females and 10 males. The average age of participants was 36 years of age and the average S-Bit score was 41.25. Consequently, groups were quite evenly matched on demographic information.

Review of Research Questions

Four research questions were addressed in this study. They included:

1. Is there a change in the levels of knowledge of participants following a sexuality education programme?

2. Are scores on the Stoelting Brief Nonverbal Intelligence Test (S-Bit) correlated with scores on the SSKAT or SSKAAT-R?
3. Are there gender differences in scores on the SSKAT and SSKAAT-R before or after sex education?
4. How does the SSKAAT-R compare with its predecessor (SSKAT)?

Each of these questions will be addressed in turn.

1. Is There a Change in the Levels of Knowledge of Participants Following a Sexuality Education Programme?

Using a *t*-test, it was found that individuals who participated in sex education increased their knowledge significantly on both the SSKAT (*t*= 6.647) (sig .000) and the SSKAAT-R (*t*= 9.576) (sig. 000). Mean scores on the SSKAT were 60.29% in pretest and 71.50% in posttest. For the SSKAAT-R, mean scores were 41.01% for the pretest and 58.89% on the posttest.

Participants in the control group did not significantly improve their scores on the SSKAAT-R or SSKAT. This was evident through *t*-test scores on the SSKAAT-R (t= 2.292) (sig .038) and the SSKAT (sig 1.658) (*t*=.120) in follow-up assessment. Mean scores on the SSKAT were 76.74% on the pretest and 79.17% on the posttest. On the SSKAAT-R, mean scores were 64.27% on the pretest and 67.95% on the posttest.

Participants Receiving Sex Education.

Total scores on SSKAAT-R and SSKAT. It was found that participants receiving sexuality education training increased significantly in their knowledge on both the SSKAT and SSKAAT-R. The greatest improvement was demonstrated by Participant #16 who increased his SSKAT score from 46% to 64% and his SSKAAT-R score from

28% to 52%. A summary of participant scores for individuals receiving sexuality education can be found in Table 6. Moreover, Figures 2 and 3 represent participant scores on the SSKAT and SSKAAT-R separately. For ease of comparison, SSKAT and SSKAAT-R scores have been converted to percentages.

Before sex education, mean scores on the SSKAT were 60.29% and were 41.01% on the SSKAAT-R. Following sex education, scores increased to 71.50% on the SSKAT and 58.89% on the SSKAAT-R. It is therefore evident that participants who received sexuality education significantly improved in their knowledge on both the SSKAT and SSKAAT-R.

Scores on Subscales for SSKAT and SSKAAT-R. Participants also improved significantly on all subscales on the revised SKAAT. Women's Bodies, and Pregnancy and Childrearing showed the most improvement with t-scores of 10.954 and 10.544 respectively. This was followed by Intimacy (t=8.211), Birth Control (t=7.387), Anatomy (t=4.524), and Men's Bodies (t=3.038). A summary of these scores can be found in Table 7.

On the SSKAT, participants also increased their scores significantly on several subscales. These included: Alcohol and Drugs, Anatomy, Birth Control, Dating, Marriage, Masturbation, Menstruation, Pregnancy, Venereal Disease, and Terminology. Participants did not significantly increase scores on Intimacy, Intercourse, Homosexuality, or Community Risks. A summary of subscale differences can be found in Table 8.

Table 6

Sex Education Group Participant Scores

Participant	S-Bit	Pre-SSKAT	Post-SSKAT	Pre-SSKAAT-R	Post-SSKAAT-R
1	36	47	63	36	49
2	36	82	89	68	79
3	62	91	93	58	69
4	36	15	26	15	21
5	36	*	88	*	64
6	40	54	72	36	59
7	36	82	88	52	72
8	36	70	82	47	62
9	36	44	54	43	**
10	38	70	81	*	62
11	36	65	77	39	67
12	36	71	75	55	74
13	103	55	55	38	50
14	36	53	65	26	53
15	36	61	73	31	49
16	36	46	64	28	52

* Participant wanted to stop test

** Participant did not wish to complete Anatomy section

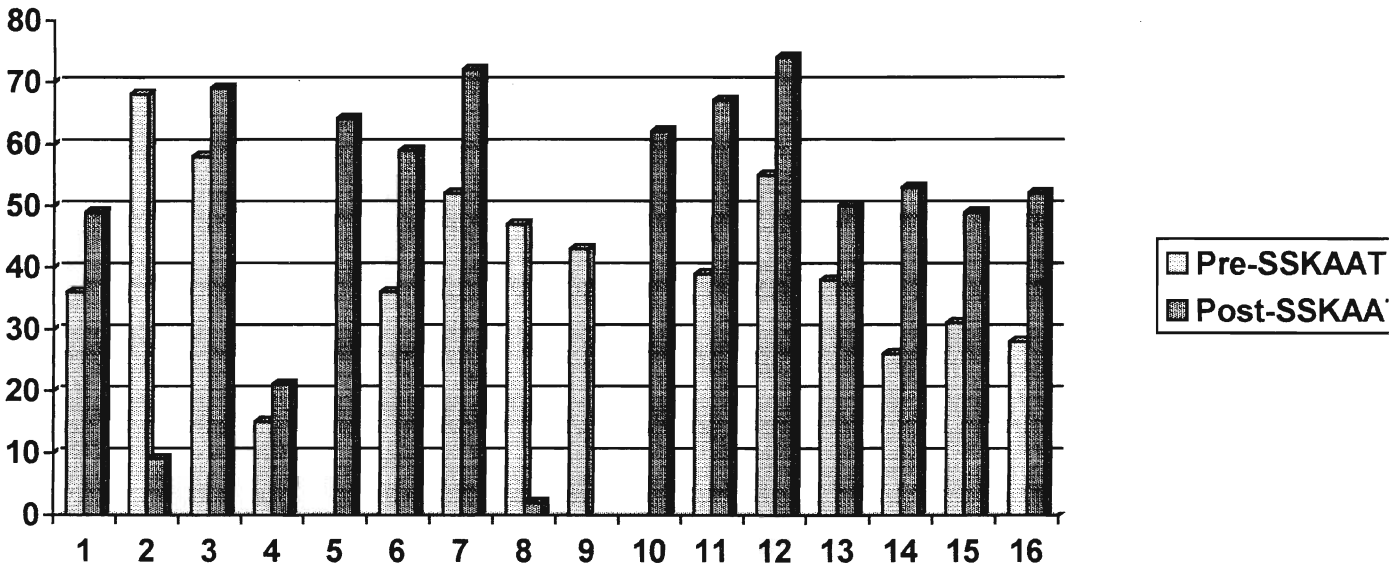


Figure 2. SSKAAT-R scores for participants in Sex Education Group

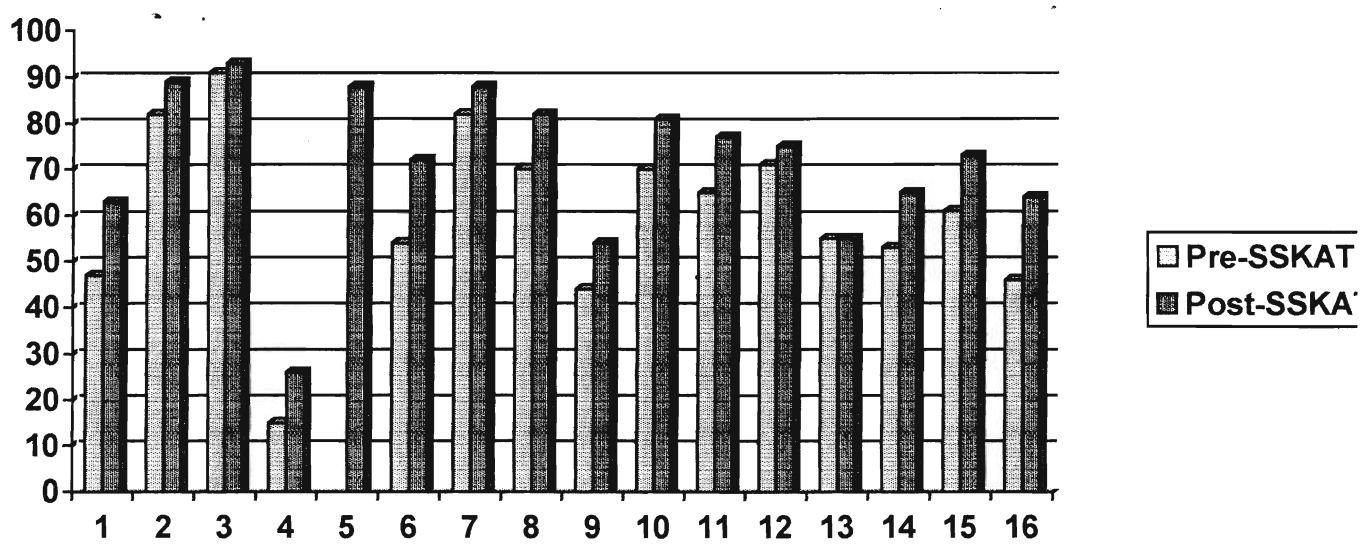


Figure 3. SSKAT Scores for Participants in Sex Education Group

Table 7

Subscale Differences on the SSKAAT-R for Sex Education Group

Subscale	**t- score**	**Sig. (2-tailed)**
Anatomy	4.524	.000
Birth Control	7.387	.000
Healthy Boundaries	5.556	.000
Intimacy	8.211	.000
Pregnancy and Childrearing	10.544	.000
Men's Bodies	3.038	.014
Women's Bodies	10.954	.000

Table 8

Subscale Differences on the SSKAT for Sex Education Group

Subscale	**t- score**	**Sig. (2-tailed)**
Alcohol and Drugs	3.003	.009
Anatomy	4.037	.001
Birth Control	5.414	.000
Community Risks	.556	.587
Dating	2.954	.011
Homosexuality	1.489	.159
Intercourse	2.012	.065
Intimacy	.974	.347
Marriage	2.653	.019
Masturbation	3.525	.003
Menstruation	4.842	.000
Pregnancy and Childrearing	4.490	.001
Terminology Check	3.389	.004
Venereal Disease	6.312	.000

Control Group

Total scores for SSKAT and SSKAAT-R. Participants in the control group did not significantly improve scores on the SSKAT and SSKAAT-R in follow-up assessment. Average pretest scores for the control group were 76.74% on the SSKAT and 64.27% on the SSKAAT-R. Posttest scores were 79.17% on the SSKAT and 67.95% on the SSKAAT-R. Table 9 indicates participant scores on the SSKAT and SSKAAT-R for the control group. For ease of comparison, scores have been converted to percentages.

Subscale scores on SSKAT and SSKAAT-R. In looking at the subscales for the SSKAAT-R, participants in the control group did not significantly increase their scores on post assessment on all subscales, except for the Anatomy subscale. As demonstrated through the use of a *t*-test, participants in the control group did increase their scores on the Anatomy subscale (t=4.417; sig .000). A possible explanation for this will be included in Chapter 5. A summary of subscale differences for the Control Group can be found in Table 10.

When considering the SSKAT, participants in the control group did not significantly increase scores on subscales. There was one exception. Participants in the Control Group increased their scores on the Birth Control subscale (t=3.484; sig .003). A summary of subscale differences for the control group can be found in Table 11.

Table 9

SSKAAT-R and SSKAT Scores for Participants in Control Group

Participant	S-Bit	Pre-SSKAT	Post-SSKAT	Pre-SSKAAT-R	Post-SSKAAT-R
17	38	91	89	81	82
18	68	93	96	82	86
19	50	91	93	74	85
20	54	93	93	85	86
21	48	95	94	79	84
22	36	71	71	50	52
23	36	72	79	65	73
24	36	84	88	73	75
25	36	79	76	63	65
26	38	49	52	36	42
27	36	36	37	25	24
28	36	82	80	60	67
29	36	37	44	36	36
30	42	92	94	91	81
31	36	82	85	52	56
32	36	95	96	76	77

Table 10

Subscale Differences on the SSKAAT-R for Control Group

Subscale	***t*- score**	**Sig. (2-tailed)**
Anatomy	4.417	.000
Birth Control	1.821	.089
Healthy Boundaries	1.479	.160
Intimacy	.366	.719
Pregnancy and Childrearing	1.251	.230
Men's Bodies	.392	.296
Women's Bodies	1.146	.296

Table 11

Subscale Differences on the SSKAT for Control Group

Subscale	**t- score**	**Sig. (2-tailed)**
Alcohol and Drugs	.577	.572
Anatomy	.222	.827
Birth Control	3.484	.003
Community Risks	.707	.490
Dating	.269	.791
Homosexuality	.178	.861
Intercourse	.923	.371
Intimacy	.356	.727
Marriage	.878	.394
Masturbation	.174	.864
Menstruation	1.379	.188
Pregnancy and Childrearing	.706	.491
Terminology Check	1.000	.333
Venereal Disease	.748	.466

It is therefore concluded that sex education does contribute to an increase in knowledge regarding sexuality, as is evident by participant scores in the sex education and control group. However, an important consideration is gender differences.

2. Are There Gender Differences in Scores on the SSKAT and SSKAAT-R Before and After Sex Education?

In looking at gender differences, there were no significant differences between the two sexes on pretest scores for both the control group and sex education group. In looking at total score by gender, using an analysis of variance, an F score of 2.514 was found (sig .125).

Moreover, using a repeated measures ANOVA for the sex education group by time of testing (pre vs. post), there were no significant tests for gender or for gender by scale (F=.345) (sig .562). Consequently, it was concluded that there was no gender effect.

However, it must be noted, in looking at the subscale differences for the sex education group, as seen in Table 6, Women's Bodies improved with a t-score of 10.954 (sig .000) and Men's Bodies had a t-score of only 3.038 (sig .000). Therefore, although there may not be an overall knowledge difference, it appears that females learned more about their bodies in sexuality education. However, another interesting finding was that Participant #16 demonstrated the greatest improvement, however, he was male. This will be discussed further in Chapter 5.

Scores for females and males in the sex education group can be seen in Tables 12 and 13, respectively. Scores for females and males in the Control Group can be found in Tables 14 and 15, respectively.

Table 12

SSKAT and SSKAAT-R Scores for Females in Sex Education Group

Participant	S-Bit	Pre-SSKAT	Post-SSKAT	Pre-SSKAAT-R	Post-SSKAAT-R
1	36	47	63	36	49
5	36	*	88	*	64
7	36	82	88	52	72
8	36	70	82	47	62
10	38	70	81	*	62
15	36	61	73	31	49

* Participant wanted to stop test

Table 13

SSKAT and SSKAAT-R Scores for Males in Sex Education Group

Participant	S-Bit	Pre-SSKAT	Post-SSKAT	Pre-SSKAAT-R	Post-SSKAAT-R
2	36	82	89	68	79
3	62	91	93	58	69
4	36	15	26	15	21
6	40	54	72	36	59
9	36	44	54	43	*
11	36	65	77	39	67
12	36	71	75	55	74
13	103	55	55	38	50
14	36	53	65	26	53
16	36	46	64	28	52

* Participant did not wish to complete Anatomy section, specifically, the section on Women's bodies

Table 14

SSKAT and SSKAAT-R Scores for Females in Control Group

Participant	S-Bit	Pre-SSKAT	Post-SSKAT	Pre-SSKAAT-R	Post-SSKAAT-R
19	50	91	93	74	85
21	48	95	94	79	84
22	36	71	71	50	52
28	36	82	80	60	67
30	42	92	94	91	81
31	36	82	85	52	56
32	36	95	96	76	77

Table 15

SSKAT and SSKAAT-R Scores for Males in Control Group

Participant	S-Bit	Pre-SSKAT	Post-SSKAT	Pre-SSKAAT-R	Post-SSKAAT-R
17	38	91	89	81	82
18	68	93	96	82	86
20	54	93	93	85	86
23	36	72	79	65	73
24	36	84	88	73	75
25	36	79	76	63	65
26	38	49	52	36	42
27	36	36	37	25	24
29	36	37	44	36	36

From these results, it can therefore be concluded that there is no gender effect when considering scores on the SSKAT and SSKAAT-R. However, as noted when discussing the subscale scores, it does appear that females learned more about their bodies in sex education than men. This will be further discussed in Chapter 5 and deserves further research.

3. Are Scores on the Stoelting Brief Nonverbal Intelligence Test (S-Bit) Correlated with Scores on the SSKAT or SSKAAT-R?

IQ scores for participants were calculated using the Stoelting Brief Nonverbal Intelligence Test (S-Bit). S-Bit scores ranged from 36 to 103, with a mean of 41.72. It does not appear that IQ has an impact on scores on the SSKAT or the SSKAAT-R.

An analysis of variance does not indicate any significant effect of IQ. An *F*-score of 1.301 (sig .291) is revealed when looking at scores on the SSKAT and an *F*-score of 2.520 (sig .041) is found when considering the SSKAAT-R. Moreover, when looking at post-scores, *F*-scores decrease, although not significantly. In posttest assessment, an *F*-score is obtained for the SSKAT (sig .413) and an *F*-score of 1.342 (sig .275) is obtained for the SSKAAT-R.

Furthermore, when looking back at Tables 6 and 9, it is evident that most participants had an S-Bit IQ of 36, which is considered to be the severe level of mental retardation. However, as demonstrated by participant scores in both the control group and sex education group, there was a large variability in knowledge about sexuality, as measured by the SSKAT and SSKAAT-R.

Therefore, it can be concluded that IQ is not correlated with scores on the SSKAT and SSKAAT-R. This will be further discussed in Chapter 5.

4. How does the SSKAAT-R compare with its predecessor (SSKAT)?

The final research question considered a comparison of the SSKAAT-R with the SSKAT. The two measures will be compared on reliability and intercorrelations. A more discrete comparison and critique of the revised measure will take place in the discussion.

Reliability of Revised SSKAAT-R

The SSKAAT-R was shown to have very good test-retest reliability. Reliability data for each subscale are as follows:

Anatomy- .92
Birth control- .91
Intimacy- .87
Pregnancy- .975
Healthy boundaries- .97
Women's bodies- .99
Men's bodies- .91

This appears to be an improvement over the SSKAT, whose reliability ranged from .72 on the Homosexuality subtest to .897 agreement on Marriage items (Wish et al., 1980).

Intercorrelations Between SSKAT and SSKAAT-R

When the SSKAT and SSKAAT-R were compared according to content, intercorrelations between the SSKAT and the SSKAAT-R were lower on individual subscales. However, the correlations were high for the total test (.94). The intercorrelation scores between the subscales are as follows:

Anatomy- .64
Birth control- .79
Intimacy- .65
Pregnancy- .83

What these values indicate is that the SSKAT and SSKAAT-R seem to test different things. Likewise, as will be discussed in Chapter 5, the SSKAAT-R provides a more in- depth assessment.

Moreover, it was found that the revised SSKAAT-R had no problems with skews, as compared to the old measure. In the old test, there were a few skews in the –1.7 range. These are mild to moderate skews and can cause minor inflation of correlational values. Because these were negative skews, the ceiling effect on the SSKAT is definitely an explanation for this. In looking at scores on the SSKAT, this is confirmed, as there were many individuals who received perfect scores on several of the subscales, even before sex education. The new test only had skew values of –1.4 or less, which are considered mild and should not cause inflation in correlation values.

Summary of Research Findings

Four research questions were considered in the present study. These included the effect of sexuality education, the effect of gender, and the effect of IQ on SSKAT and SSKAAT-R scores. In addition, a comparison of the SSKAT and SSKAAT-R was solicited.

The present study found that sex education does in fact have a significant effect in increasing knowledge regarding sexuality, as measured by scores on both the SSKAT and SSKAAT-R. However, it was found that gender and IQ do not have a significant effect on knowledge regarding sexuality. These findings will be further discussed in Chapter 5.

Finally, the SSKAAT-R and SSKAT were compared, concluding that the SSKAAT-R is a much more reliable measure than its predecessor. A more in-depth comparison and critique of the revised SSKAAT-R will take place in Chapter 5.

Overview of Subsequent Chapter

The final chapter will provide a discussion of the research implications of the present results. Critiques of the SSKAAT-R and of the research limitations will be provided. Finally, recommendations for future research will be made.

CHAPTER FIVE: SUMMARY, DISCUSSION, AND RECOMMENDATIONS

Summary

This is a study of the sexuality knowledge of individuals who have a developmental disability. In this study, it was the intent to facilitate a sexuality education programme for individuals who have a developmental disability. Prior to and following this programme, participants were assessed according to their levels of toward sexuality. In addition, a control group received the same assessment tools, but did not receive sexuality education training.

Furthermore, the present study is a pilot study involving the evaluation of the Socio-Sexual Knowledge and Attitudes Assessment Tool (SSKAAT-R; Griffiths & Lunsky, in press). This tool is a revised version of the Socio-Sexual Knowledge and Attitudes Test (SSKAT; Wish, Edmonson, & McCombs, 1980). Participants were assessed using both measures and results were compared.

Four research questions were addressed in this study. They included:

1. Is there a change in the levels of knowledge of participants following a sexuality education programme?
2. Are scores on the Stoelting Brief Nonverbal Intelligence Test (S-Bit) correlated with scores on the SSKAT or SSKAAT-R?
3. Are there gender differences in scores on the SSKAT and SSKAAT-R before or after sex education?
4. How does the SSKAAT-R compare with its predecessor (SSKAT)?

Participants included 32 individuals who have developmental disabilities. Sixteen individuals were in the control group, while 16 participants received a 6-week sex

education programme, *Life Horizons*, between each assessment. Participants in the study ranged in age from 21 to 66 years, with a mean age of 38. There were 12 females who participated in the study and 20 males, whose S-Bit IQ scores ranged from 36 to 103.

The sex education group comprised of 6 females and 10 males. The average age of participants was 40 years of age and the average S-Bit score was 42.19. The control group also comprised 6 females and 10 males. The average age of participants was 36 years of age and the average S-Bit score was 41.25. Groups were therefore quite evenly matched on demographic information.

Participants in both the control group and sex education group were assessed using three measures. These included two measures of sexuality knowledge and attitudes, the SSKAT and the SSKAAT-R, as well as an intelligence test, the S-Bit

Discussion of Results

It was found that individuals who received sexuality education increased significantly in knowledge, as demonstrated by their scores on the SSKAT and SSKAAT-R. Participants in the sex education group increased their knowledge significantly on both the SSKAT (t= 6.647; sig .00) and the SSKAAT-R (t= 9.576; sig. 00). Mean scores on the SSKAT were 60.29% in pretest and 71.50% in posttest. For the SSKAAT-R, mean scores were 41.01% for the pretest and 58.89% on the posttest.

Participants in the control group did not significantly improve their scores on the SSKAT (t= 1.658; sig.120) or SSKAAT-R (t= 2.292; sig .038) in follow-up assessment. Mean scores on the SSKAT were 76.74% on the pretest and 79.17% on the posttest. On the SSKAAT-R, mean scores were 64.27% on the pretest and 67.95% on the posttest. Participants in the control group, did, however, show some improvement on both the

SSKAT and SSKAAT-R. This is due, in my opinion, to the teaching components that were included in the initial administration of the SSKAAT-R. This will be further addressed later, in the critique of the SSKAAT-R.

Overall, from scores on both the SSKAT and SSKAAT-R, it is therefore evident that sex education is successful at increasing knowledge regarding sexuality. However, perhaps the more important implications arise when we consider the individuals' subscale scores.

Participants who received sexuality education increased their scores significantly on all subscales of the SSKAAT-R. Average differences for each subscale were as follows: Anatomy (t=4.524); Birth Control (t=7.387); Healthy Boundaries (t=5.559); Intimacy (t=8.211); Pregnancy and Childrearing (t=10.544); Men's Bodies (t=3.038); and Women's Bodies (t=10.954). On the SSKAT, subscale differences ranged from .556 to 6.312. Participants showed the largest improvements on the Venereal Disease, Birth Control, Menstruation, Pregnancy and Childrearing, and Anatomy subscales, respectively. It is important to note that the areas improved upon on both the SSKAAT-R and SSKAT were topics covered in the *Life Horizons* sex education curriculum.

Due to a limited time frame, sexuality education facilitators were not able to cover the entire *Life Horizons* curriculum, but were able to address most sections. Again, it is important to note that the sections covered in the classes were selected by the class facilitators and not the researcher. Moreover, the researcher did not know what was covered until after data collection. The following sections were addressed, which correspond with areas that showed significant improvement by participants in sex education. This is supported by increases in SSKAT and SSKAAT-R scores. A quick

review of the *Life Horizons* curriculum is provided, describing what was taught in the present study.

Building Self-Esteem and Establishing Relationships. In this set, slides depict simple methods of projecting one's self-esteem; facing and coping with one's own disability; and understanding and accepting the disabilities of other people. In addition, feelings are addressed, including being aware of the feelings of others as well as understanding one's own feelings and how to express them appropriately. Finally, manners and the process of forming family, friendly, professional, working, and other relationships were taught.

Parts of the Male and Female Bodies. This set of slides outlines the uses and roles of each body part, labeling each part in medical and slang terminology

The Sexual Life Cycle. This set of slides traces the emotional and physiological development of men and women from birth to death, with emphasis on sexual changes that are influential and unique to each sex.

Human Reproduction. This set of slides explains the process of reproduction as well as the emotional and physiological aspects of sexual intercourse. How conception occurs, labour, and the birth process are addressed, ending with the birth of the baby.

Birth Control and Regulation of Fertility. This set of slides includes explanations of all methods of birth control, concentrating on The Pill and the condom.

Sexual Health. This set of slides discusses reproductive health and sexually transmitted diseases. The slides represent the importance of good health habits in keeping not only sexual parts healthy, but the entire body as well. The slides also depict the various processes of medical examinations for men and women to detect various

diseases or illnesses that attack the body's reproductive or elimination systems. Detailed slides with explanation of the main sexually transmitted diseases (STDs) including AIDS, herpes simplex, syphilis, and gonorrhea are also provided.

Dating. Values, Skills, and Learning to Love. Slides in this set are intended to stimulate discussion on various feelings involving various relationships and expressing them appropriately. Whom to date, activities, proper dress and manners, levels of loving and lovemaking in opposite- and same-sex relationships are also included.

Marriage and Other Life Styles. This set of slides depicts various lifestyles available for today's adults. These include living alone, one same-sex roommate without romance, heterosexual couple living together without marriage, homosexual couple living together, living with families, group living center, and others.

From reviewing what participants learned in the sexuality classes, it therefore becomes more evident that sexuality education is successful at increasing knowledge regarding sexuality. However, what is interesting to note is that participants also increased their knowledge on the Healthy Boundaries subsection on the SSKAAT-R, which assessed issues that were not directly covered in the *Life Horizons* curriculum. Issues of esteem and healthy relationships were addressed though, which may increase an individual's level of confidence and ability to know what is considered to be appropriate or inappropriate. It appears that participants were able to generalize information on relationships and apply this to other areas of the SSKAAT-R.

Participants also significantly improved on the subscale of Alcohol and Drugs on the SSKAT. It is unclear why this change occurred. Perhaps in discussion of esteem issues, participants became more comfortable with asserting themselves. It is also

possible that interactions with other participants made individuals more aware of alcohol consumption or perhaps more confident to express their true feelings regarding alcohol and drugs. This is an area that deserves further investigation.

When addressing gender effects, the current study did not demonstrate any significant effect of gender on knowledge about sexuality. However, as was discussed in Chapter 4, when looking at scores on the subscales, Men's and Women's Bodies, there does appear to be a difference. Men's Bodies scores increased with a *t*-score of 3.038 (sig .014), while Women's Bodies increased with a t-score of 10.954 (sig .000). It therefore seems that the women seemed to learn more in sexuality education. Moreover, this becomes more significant considering the higher number of men participating in the sex education classes than women.

This is also reflected in the number of questions that appear on the SSKAAT-R that concern women's bodies as compared to men's bodies. The SSKAAT-R contains 31 questions regarding women's bodies and 22 questions regarding men's bodies. Furthermore, *Life Horizons* addresses more female issues such as menstruation and the need for Pap tests, while covering minimal issues regarding men's bodies. However, it is important to note that the SSKAAT-R addresses issues such as PSA tests, which are not discussed in the *Life Horizons* curriculum. Male participants were therefore tested on areas which they did not receive instruction, whereas females received assessment on issues that were addressed in the sexuality training.

It is curious to note that Participant #16 demonstrated the greatest improvement following sex education, even though he was male. Perhaps this individual particularly enjoyed the sex education classes and developed a strong rapport with the facilitators and

therefore made a concerted effort to learn. Another possibility is the sex education classes contributed to an enhanced level of self-esteem, which allowed this individual to generalize information and have increased confidence on posttest assessment. Hence, although overall the present study did not appear to herald any significant results regarding gender, this is an area that deserves further inquiry.

Another important consideration is the gender of the sex education facilitators. Sex education classes were facilitated by 2 females, which could have an effect on the learning of participants. This may explain why it appears that women increased their knowledge about their own bodies. McCarthy (2001) states that sex education and counselling should be conducted by same-sex clinicians; however, this is an area that deserves further research.

The third research question involved the effect of IQ on scores on the SSKAT and SSKAAT-R. It was found that IQ did not have a significant effect on knowledge regarding sexuality. This was supported through ANOVA tallies. However, the lack of effect of IQ is also reinforced by quickly looking at the data. Most participants, as assessed by the S-Bit, had an IQ of 36. However, their scores on the SSKAT and SSKAAT-R varied widely.

In addition, if IQ had an effect on knowledge after sex education, one would expect that the individual who had an IQ of 103 would have a high SSKAT and SSKAAT-R score. However, as can be see in Table 6, participant #13's scores were below the means of the entire sample of both the SSKAT and SSKAAT-R in the pretest. Moreover, his score on the SSKAT remained the same after sex education. He did show improvement on the SSKAAT-R, but his score still fell below the group mean.

Consequently, it is concluded that a higher IQ does not necessarily mean that an individual will benefit from sex education.

The assessment of IQ in this study also poses further research questions. As was discussed above, most participants in the study were found to have an IQ of 36, which would be considered to be severe mental retardation. However, these individuals, in their daily functioning, would not be considered to have such profound developmental disabilities. Consequently, one would call into question the significance of an IQ score for persons with developmental disabilities. Another possibility is that the S-Bit is not the most suitable assessment tool for use with adults who have developmental disabilities. This is an area that deserves further inquiry and will be discussed later in this chapter.

The final question involved comparing the SSKAT to the SSKAAT-R. The present study showed the SSKAAT-R to be very reliable, with a test-retest reliability, ranging from .87 to .99. This appears to be an improvement over the original SSKAT, whose reliability ranged from .72 to .897.

When comparing the SSKAT and SSKAAT-R according to content, correlations were high for the total test (.94). However, the intercorrelations between the subscales were much lower. These ranged from .64 on anatomy to .83 on pregnancy. What this reveals is that the SSKAT and SSKAAT-R seem to assess different things. However, this is not a weakness, since this was the intention of revising the SSKAT. The SSKAAT-R, as will be discussed later in the critique, is a much more intensive assessment, and covers more areas than the original SSKAT. This is further supported with the lower skew values. The SSKAT has been critiqued for ceiling out on certain variables, as was

demonstrated in the present study on variables, such as terminology, marriage, and homosexuality. The SSKAAT-R however, demonstrated lower skews and did not reveal any ceiling effects. This thus increases the value of the revised SSKAAT-R. More discussion of the revised SSKAAT-R will now place.

Critique of the Revised SSKAAT-R

When Griffiths and Lunsky (2000) surveyed support providers and professionals, the increased emphasis on relationships demonstrated one of the most positive attitude shifts in the new survey. This change reflects an increased acceptance of the full range of relationships as items for assessment and education. These relationships include going steady, dating, engagement, marital procedures and responsibilities, extramarital contact, and to a lesser degree, marriage. This reflects the slowly shifting understanding of the sexuality of persons with developmental disabilities as a natural expression of their desire for human contact and interpersonal caring (Griffiths & Lunsky, 2000). On the surface, this may not seem noteworthy, until the historical significance is understood. As discussed in the literature review, in the eugenics era, sexual activity for persons with developmental disabilities was considered inconceivable. Over time, sexual activity for individuals who have developmental disabilities gained acceptance after marriage, even though persons with developmental disabilities were rarely permitted to marry. Now, as in society in general, the critical factor for acceptance of the sexual activity for individuals who have developmental disabilities appears to be consent. The issues of disability, marriage, and gender appear to have become less important.

Strengths of the SSKAAT-R. The SSKAAT-R demonstrated many improvements over the SSKAT. These include the breadth of information covered, the

reflection of health and sexuality concerns of present society, and a greater sensitivity to attitudes. Moreover, the SSKAAT-R provides a greater clinical application of the SSKAAT-R. Finally, the structure of the SSKAAT-R, including phrasing of the questions, is a large improvement over the SSKAT. Each of these strengths will be discussed in turn.

One of the greatest strengths of the revised SSKAAT-R is the breadth of the information assessed. The revised measure does not simply address surface questions and issues, such as defining menstruation. Rather, the revised tool provides more practical tangible questions, asking how often a woman should change a sanitary pad and addressing the topic of menopause. If the SSKAAT-R is being administered for the purpose of assessing what the individual needs to learn about sexuality, it is much more useful in identifying tangible areas of weakness or strengths.

This is also accomplished through the separation of male and female bodies. By looking at these separately, with women receiving questions on their own bodies, a more in-depth assessment can be accomplished. However, a critique of this approach is that males and females should have an increased knowledge about the opposite sex's bodies, as discussed by McCarthy (1993, 1996).

This is further demonstrated later in the SSKAAT-R. When discussing pregnancy, it is taken for granted that males know about the female body, asking specific questions regarding if a woman still gets her period when she is pregnant or if she can get pregnant if she has sex when she is menstruating. However, for males, this is the first time that menstruation has been addressed. Therefore, an incorrect answer to "Can a woman get pregnant if she has sex when is menstruating?" or "Does a woman still get her

period when she if pregnant?" (p. 37) may not be representative of the knowledge level of the individual if his understanding of menstruation is not first assessed. A lack of understanding of menstruation may also lead the individual to guess at these questions, giving a response that is not indicative of the participant's actual knowledge of pregnancy or conception.

Furthermore, as discussed by McCarthy (1993, 1996), many individuals who have developmental disabilities have a lack of understanding about their partner's bodies. According to McCarthy (2001), this contributes largely to the lack of sexual pleasure expressed by many men and women who have developmental disabilities. It would therefore be useful to assess an individual's general knowledge about the opposite sex's body in order to determine what areas deserve attention in sex education or other forms of intervention.

With regards to this critique of the SSKAAT-R, it must be noted that the SSKAAT-R has been revised since the initial administration in this study. Because of this critique, in the Men's and Women's Bodies sections, there are now several questions about the opposite sex. This includes an assessment about menstruation for males and an understanding of erections and ejaculation for females.

Another large strength of the revised assessment tool is that there is less room for guessing. Questions are more open-ended in the new SSKAAT-R, rather than providing a quite obvious answer. For example, in the old SSKAT, a picture of birth control pills would be shown. For this picture, the questions would be "What is this called? Can you use these to keep from having a baby?" "If a person took a pill to keep from having a baby, would it have to be a special kind of pill?" (p. 15). This type of questioning leaves

a lot of room for guessing. Guessing is a significant concern because, as was discussed in the literature review, many individuals who have developmental disabilities have a tendency to answer yes/no questions in the affirmative (Tudiver et al., 1997). In order to address this concern, in the revised SSKAAT-R, the individual is asked to identify birth control pills and is then asked why they are used. Points are then given for identifying that birth control pills can prevent pregnancy as well as for regulating the menstrual cycle. This therefore tests the individual's knowledge about the use of birth control pills rather than providing the answer and requiring a "yes" or "no" answer. Guessing is still possible, but asking the question in this manner reduces the possibility.

Another strength of the SSKAAT-R is its increased reflection of sexuality concerns of the 21st Century. This is most evident in the discussion of condom use. In the old SSKAT, condoms are addressed under the Birth Control section. The participant is asked, "Point to what a man should use if he does not want his wife or girlfriend to get a baby inside her" (p. 15) and there are 4 possible photographs. The four possible answers include soap, a sock, a condom, and coke. Condoms are never mentioned when discussing venereal diseases, nor is any other form of STD prevention. On the revised SSKAAT-R, condoms are addressed in the Birth Control and STDs section. From a possibility of 4 pictures, including Depo Provera, birth control pills, condoms, and abstinence, participants are asked to point to the condoms. Participants are then asked, "Why do people use condoms?" (p. 54). Points are given for knowing that condoms are used to reduce the risk or pregnancy and to reduce the risk of disease transmission. Questions are then posed about where to buy condoms and the use of spermicide. This is a great improvement over the SSKAT because it acknowledges that condoms are used for

more than pregnancy prevention. This is important in a time where AIDS and HIV transmission is becoming an increased risk, especially for individuals who have developmental disabilities, as discussed in the literature review.

Furthermore, as noted previously, the revised SSKAAT-R includes the discussion of Depo Provera, which is a method of birth control employed by many women who have developmental disabilities. Also, abstinence is addressed and discussed as a method of preventing pregnancy as well as sexually transmitted disease. The SSKAAT-R is therefore much more comprehensive in its assessment and is much more reflective of sexuality issues of today.

Another strength of the revised tool is that the SKAAT is much more able to identify vulnerabilities and attitudes. With increased room for writing comments, the clinician can note the intensity of the response. For example, when asking an individual, "Is That OK or not OK?", the manner in which he or she answers carries a large message. For example, if the participant responds with "Not OK" very casually, this has a different meaning than saying "Not OK!" while shaking his/her head. Answering very loudly or making other comments, such as "Not OK, Bad!!" have great significance and are much more indicative of the participant's feelings than a simple recorded response. These reactions should be taken into account when using the SSKAAT-R and can help the clinician determine what intervention should take place. This will be further discussed in the Recommendations section.

The ability to reflect vulnerabilities and attitudes is also evident in the Healthy Boundaries section, which is a completely new section on the SSKAAT-R. Potentially abusive situations are illustrated and for each situation, the participant is asked, "What is

happening in this picture? Is this a good way of touching or a bad way of touching? Why?" (p. 66). By asking the participant to first describe the situation, one can first determine if the individual really understands what is happening in the picture. Following this, an assessment of their deemed appropriateness of the situation occurs. From this method of inquiry, the participant's judging of appropriateness or inappropriateness can be further understood.

By asking the individual why a particular situation is "OK" or "Not OK," the clinician can gain a better sense of the individual's thought process or attitude when evaluating a situation. For example, when discussing the illustration of a man touching another man on the sofa, if the individual does not understand from the individual's facial expression that the touch is unwanted, then their perception of appropriateness is skewed. Furthermore, if the individual believes that the touch is inappropriate simply because it is two men touching, then their answer is more reflective of their attitude toward homosexuality than whether a person can touch another person without permission. Asking why a situation is appropriate or inappropriate therefore provides the SSKAAT-R with greater clinical and educational value. Vulnerabilities and attitudes can be determined and consequently, intervention can then be tailored to the individual's needs.

The manner in which attitudes are addressed is another great improvement in the revised tool. The SSKAT addressed attitudes as scores, seeming to judge some attitudes as correct or incorrect, while evaluating other attitudes as knowledge. An example of this is in the Dating section. The appropriateness of holding hands on a first date is scored as knowledge, but the appropriateness of clothed kissing, naked touching, or intercourse, is scored as an attitude. This makes recording quite confusing and reduces the clinical

value of the responses. Furthermore, participants receive two points for stating that kissing, naked touching, or intercourse is appropriate, leading to a higher attitude score. However, this calls into question if one can really evaluate attitudes in this manner. Attitudes are very individual and should not be scored as correct or incorrect. Attitudes should be assessed as positive or negative, without attaching a value or score.

In the revised SSKAAT-R, attitudes are addressed separately and do not receive any score at all. The authors of the SSKAAT-R felt that attitudes are very personal and can therefore not be judged right or wrong (Griffiths & Lunsky, in press). Attitude responses are simply recorded as "OK" or "Not OK" and are addressed separately from knowledge scores. Therefore, if one wanted simply to use the SSKAAT-R to determine an individual's attitudes toward particular areas of sexuality, this would be possible.

With regards to attitudes, it must also be noted that for the most part, on the revised SSKAAT-R, the issue of intimacy is considered to be an attitude. For example, when discussing holding hands, the participant is asked to describe what is happening in the picture, then is asked, "What do you think about people doing that on a first date. Is it OK or Not OK?" (p. 21). Next, the participant is asked, "What about after lots of dates?" (p. 21), then "What if they are married?" (p. 21). The participant would receive one point for identifying that they are holding hands, but their attitudes toward holding hands in particular situations is not scored; this is considered to be an attitude and is recorded separately. The appropriateness of holding hands in particular settings, however, is then evaluated as a knowledge question. The participant is asked, "If people do this, where should they go?" (p. 21). Their attitude toward holding hands is not indicative of their knowledge of holding hands, but knowing where is an appropriate place to hold hands is

important. Again, this is reflective of the clinical and practical value of the SSKAAT-R. If the participant feels that it is appropriate to hold hands at work, then issues of boundaries and appropriateness should be addressed in the participant's subsequent education or intervention.

The actual assessment tool of the SSKAAT-R is also largely improved from the original SSKAT. There is more room for writing specific comments, which as discussed above, contributes greatly to the clinical value of this measure. Comments may not make a difference for the participant's total score, but they do provide greater practical information and can be useful when determining intervention focus. Moreover, photographs on the revised SSKAAT-R are clearer and the illustrations are much more detailed. This makes it easier for participants to understand what is happening in each situation. This change is in response to the critique of the SSKAT discussed in the literature review that pictures were out of date and of poor quality.

The revised SSKAAT-R is also easier to administer. The stand-up easel makes it more convenient for participant to see the pictures. The addition of the use of cards is also very useful. Participants are able to pick them up and look closely at the pictures.

As can be demonstrated from this critique, the revised SSKAAT-R has many strengths. These changes ameliorate its utility over the SSKAT. There are, however, a few problems with the new assessment tool, which will be discussed below.

Areas that require improvement on the revised SSKAAT-R. There are few criticisms of the new measure. Most of the critiques of the revised SSKAAT-R have to do with the actual physical makeup of the tool, including the setup of the record form, rather than content critiques. However, there are some specific questions whose content

does require amending. Moreover, there are a few concerns regarding implications for research.

A first critique of the revised measure is that there are an uneven number of questions for males versus females. As was discussed above, males and females have their own sections to complete, but there are more questions for females. In the Women's Bodies section, there are 31 questions, while in the Men's Bodies section, males are only required to answer 22 questions. This is problematic when calculating the total score for participants. If scores are simply added, females have a possibility of receiving a higher score right from the start. This difference also makes it difficult to compare scores between males and females. For the purpose of this study, scores were then converted to percentages; however, this need to recode scores comes with its own statistical concerns. As discussed in the literature review's critique of the original SSKAT, percentages are a derived score, and one that does not have regular mathematical properties, such as a standard score. Consequently, they are not recommended for use in research. However, this was deemed necessary in the present study in order to compare males and females.

As will be discussed later in the limitations section of this thesis, some items on the revised measure involve teaching. For these SSKAAT-R items, if the participant did not know what a term meant, the clinician was instructed to provide a definition for the individual. This type of teaching occurs on questions regarding menopause, masturbation, erotica, ejaculation, sterilization for men and women, and sexual assault. Thus, there are many questions where the participant is taught the correct answer.

In a different form this type of teaching occurs on the question regarding erection. The male participant is asked to point to the drawing of an erection. If the person incorrectly answers the question, the clinician is instructed to point to the sketch of the erection and ask, "What is it called when a penis looks like this?" (p. 15). If the person answers correctly, he is given the full point, although he was given the answer in the phrasing of the first question.

The Anatomy section poses a similar concern. In this section, participants are asked to identify body parts for both male and female bodies. Initially, the clinician points to the various body parts and asks, "What is this called?" The participant would then be awarded 2 points for labeling the selected body part with appropriate terminology or slang. However, for the items that the person was unable to correctly label, the question is then posed in a different way. The participant is then requested to point to the body part. For example, if the person was unable to label the testicles, the researcher would say, "Show me the Testicles." If this is done correctly, the participant receives only 1 point. Although participants receive fewer points for pointing to the body parts, they are at the same time, learning the names of the body parts. Teaching is therefore evident for these types of questions as well.

If the SSKAAT-R is being administered as a pre- and post-assessment to sex education, questions that promote teaching may have an effect on postscores. This is because participants may have learned this new information from the initial administration of the SSKAAT-R. Consequently, it is difficult to determine if knowledge was gleaned from sex education or if perhaps, the initial teaching on the SSKAAT-R was

reinforced in the sex education. The increased scores demonstrated by a few participants in the control group can further support this.

The teaching of items on the revised SSKAAT-R has more implications for studies involving control groups. As demonstrated by the present study, a few participants increased their SSKAAT-R scores in the post-assessment. Although this increase in score was not significant, their increased scores could be due to the teaching that occurred in the initial assessment on items such as anatomy. This is further supported by the significant increases in scores on the Anatomy subscale demonstrated by the control group. Unfortunately, this is not something that can be determined subsequent to the study. Teaching items on the SSKAAT-R therefore poses many research-related concerns and is a significant critique of the revised measure.

In response to this critique, it must be noted that since this initial pilot study, the SSKAAT-R has been modified. Teaching is no longer recommended on items where the participant is unable to identify something correctly. If a participant does not know the answer, the clinician is instructed to give the participant a score of 0 and then proceed with further questions. The Anatomy section, however, still asks the participant to label the various parts and then, if they are unable to do so, they are asked to point to the body parts. This can still have an effect on participants' scores.

Other concerns involve specific pictures. In the Healthy Boundaries, there is a question, "Who is most like you?", accompanied by the picture cards. Participants are to identify who in the pictures is most like them. Following that, the respondent is to point to which person is the most appropriate person for them to go on a date with and who would be most appropriate to have sex with. However, there are no possible pictures of

elderly people. This can be limiting for participants and may confuse some respondents. It must be noted that in the revised SSKAAT-R, there are now pictures of an elderly woman and an elderly man for this section.

Another picture that was problematic was in the Pregnancy and Childrearing section. Participants are asked, "Show me which of these couples can make a baby together" (p. 35) and there are four possibilities, including a picture of two children, two men, a couple in their 30s, and an older couple. However, the picture of the older couple can be quite confusing because the woman looks about 45 or so and could conceivably still have a child if she has not gone through menopause. The woman in this picture should therefore look even older. Many participants did, in fact, pick that couple as being able to have children in addition to the couple in their 30s. Because of the confusing nature of the picture, participants were not penalized for making this selection in the present study.

Furthermore, this same couple is used for questions regarding marriage. The same couple that was supposed to be too old to have children was used in a previous section and are called "Mark" and "Samantha." The scenario is that Mark and Samantha want to get married and several questions are asked about this. The question that is problematic is, "If they have a baby, should Mark change the baby's diapers?" (p. 31). It is possible that use of the same couple could cause confusion for participants who previously saw the couple discussing children. It must be again noted that since this research study, the picture of the elderly couple has been changed so that the woman is significantly older and it is obvious that she has gone through menopause. The picture of

Mark and Samantha has also been changed to a couple in their 20s, so as to avoid any confusion.

Another critique of the SSKAAT-R is that scoring is difficult in some places. This is most evident in the Healthy Boundaries section, where there are four illustrations of individuals hugging, shaking hands, kissing, and having intercourse. This is accompanied by two questions, "Which of these can you do with a staff member" and "Which of these can you do with a child?" (p. 75). The scoring indicates, "4 points total, 1 point for each correct answer: close hugging, kissing, and sex are judged as being inappropriate and appropriate interaction is judged as correct; one point for each correct answer" (p. 75). However, there is only one correct answer, therefore participants can only get a maximum of 1 point out of 4. This is very confusing for the clinician. For the present study, participants were given 4 points if they pointed to the appropriate response and were deducted points for every incorrect answer. In response to this critique, this is a question that is presently under revision and scoring is being reassessed.

Another problem with scoring the SSKAAT-R is that the record form is very small. Correct answers are in bold face, but they are the same sized font and it is difficult to differentiate between the answers. When administering a SSKAAT-R, the clinician should be concentrating on the participant and his/her responses, rather than having to decipher the correct answer on the record form. This was quite time-consuming and many times during this study, the researcher had to go back afterwards to tabulate the score. Correct answers should therefore be bigger and bold face for a more efficient recording process.

A final critique of the makeup of the revised tool involves the cards that are used. There are many cards to keep organized and they are quite difficult to decipher, especially when trying to keep track of questions and pictures in the easel, then remembering which cards are to be placed in front of the individual. In the present study, the researcher decided to put cards into a card catalogue, organizing them by section and frequency that they are used. This became much simpler and more organized for the clinician. However, having coloured cards for sections or tabs on cards would make the cards even easier to decipher. It must be noted that since this study, cards are now being organized into a card catalogue in order to provide a more efficient system.

Strengths of the Present Research

As discussed in the literature review, Griffiths, Watson, et al. (in press) have found several weaknesses in the majority of the research on sex education. These include a lack of formal evaluation, lack of pre/post data, a lack of control groups, and a lack of follow-up data. The present study has taken these critiques into consideration in the following ways.

As Whitehouse and McCabe (1997) critiqued, of the research that has reported evaluation data, none has reported the effectiveness of sex education in relation to increasing sexual knowledge and enhancing positive attitudes toward sexuality. However, the present study used two assessment tools, the SSKAT and the SSKAAT-R, in order to evaluate knowledge and attitude change following sex education.

This was strengthened with the use of pre/post evaluation, administering both the SSKAT and SSKAAT-R before and after sex education. This was done to determine if there is a difference between level of knowledge and attitudes toward sexuality following

a sex education curriculum. This methodology is recommended by Edmonson et al. (1979); Lumley and Miltenberger (1997), and Griffiths, Watson, et al. (in press).

Moreover, this study is strengthened with the use of a control group. A control group of 16 people also received the SSKAT and SSKAAT-R initially. Participants were then assessed with the SSKAT and SSKAAT-R 6 weeks later. This method was employed in order to ensure that increases in scores on the assessment tools were not simply due to familiarity with the measures.

The final criticism of most research on sex education was lack of follow-up. In the present study, a 6-week follow up was employed after sex education as well as with a control group. This is a limited follow-up, however, and the researcher will soon be conducting another follow-up assessment to see if the knowledge has been generalized or if participants have lost most of the knowledge gained.

Limitations of the Current Study

The present study had a few limitations, including the lack of genetic diagnosis for most participants, yet the inclusion of an individual with Asperger's Syndrome, limited follow-up, limited length of sex education, small sample size, and an uneven number of male and female participants. These limitations will each be discussed in turn.

This study, like most research with individuals who have developmental disabilities, looks at clients as a homogeneous group because they have all been identified as having a developmental disability. However, research now indicates that each genetic diagnosis comes with its own challenges and strengths, including learning style and cognitive functioning (Dykens et al., 2000). With the exception of the individuals who have Down Syndrome, the genetic diagnosis of the participants is unknown. This is only

due to the unique facial features that typify Down Syndrome, including the small head with flat-looking face, small ears and mouth, protruding tongue, broad neck, and upward slant to the eyes, with epicanthal folds at the inner corners. However, within Down Syndrome, there are different types of Down, including Trisomy 21, mosaicism, and unbalanced translocation, each of which has its own challenges and strengths.

With regard to Down Syndrome, preliminary research suggests that individuals who have Down perform much better on visual-spatial tasks than on verbal or auditory tasks (Dykens et al., 2000). This learning style has ramifications for the present study because both the SSKAT and SSKAAT-R are verbal tests, but the S-Bit is a visual-spatial tool and does not rely on verbal ability. Consequently, an individual with Down Syndrome may have a greater score on the S-Bit, but may not be able to reflect their knowledge as well on the SSKAT or SSKAAT-R.

With Down Syndrome, there are also issues of intellectual decline with age, including cognition and memory (Dykens et al., 2000). Many of the participants who had Down Syndrome were over the age of 40, which may impact on their ability to remember information learned in the sex education classes as well as their abilities to remember that information for the SSKAT and SSKAAT-R. Furthermore, a decline in cognition could be evidenced in the S-Bit score; however, this assessment tool does not account for age differences in adults.

The nature of Fragile X may cause some difficulties for individuals participating in this study. As mentioned in the literature review, individuals who have Fragile X have difficulty maintaining attention and are prone to hyperarousal (Dykens et al., 2000). This may cause difficulties in the class setting as well as the testing situation. Furthermore,

these individuals have cognitive challenges, such as auditory-verbal and visual-perceptual short-term memory problems and sequential processing (Dykens et al., 2000). Females especially, have difficulty integrating information, which could impact on their abilities to learn the information in the sex education classes as well as their ability to apply that information to the assessment with the SSKAT and SSKAAT-R. However, as mentioned earlier, it is unknown if any individuals participating in the study had Fragile X Syndrome.

Another benefit of understanding an individual's genetic diagnosis would be to understand the impact of the syndrome on his/her sexual functioning. As discussed in the literature review, many genetic syndromes, such as Asperger's Syndrome and Prader-Willi Syndrome, come with their own sexuality issues (Griffiths, Richards, et al., in press). If the instructor of a sex education class understood some of these issues, then education could be tailored to address these concerns. Furthermore, there are many esteem issues that accompany sexual difficulties.

An example of this might be Prader-Willi Syndrome, which is characterized by hypogonadism. Consequently, males who have Prader-Willi Syndrome have very small penises. Most diagrams of the penis used for sex education are of regular size, in fact, usually larger in order for students to get a closer look. However, for a male in a sex education class who has Prader-Willi Syndrome, this could be very confusing, perhaps leaving him feeling abnormal or thinking the size of the penis in the illustration is abnormal. If a facilitator knew the diagnosis for an individual receiving education, then he or she might be more sensitive to the particular needs of that participant. Therefore, knowing the genetic diagnosis of a participant would increase the sensitivity of the

facilitators to the specific sexuality needs of the participants. This is perhaps the most important reason for knowing the genetic diagnosis of the participants.

There was one individual in the sex education classes who has Asperger's Syndrome. This disorder contributes to attention difficulties and distractibility (Atwood, 1998). This could have a great impact on how much this individual was actually able to retain while sitting in the classes. Furthermore, this inability to focus has implications for testing situations. Participants were asked to sit through a battery of three tests in the initial assessment and two in the second. Although a break was given, maintaining attention for such a long period of time was quite difficult and may well have impacted on the individual's results on the assessment tools.

Moreover, there is a great debate over whether Asperger's Syndrome is a developmental disability or not. As discussed by Gaus (2000), there is an unresolved debate about whether Asperger's is a valid diagnostic category, or whether it is simply a variant of Autistic disorder. However, regardless of their position in the debate, most authors on the subject agree that individuals who have Asperger's have problems in social perception and behaviour. Although their disabilities can be described as "mild," their impairments in the social domain of functioning require special attention from the mental health and social service systems (Gaus, 2000). The presence of a developmental disability is easy to overlook because, by definition in the DSM-IV, individuals who have Asperger's do not have mental retardation (Gaus, 2000).

Therefore, in response to a potential critique that the individual who has Asperger's Syndrome does not belong in this study, it is argued that he does in fact have a developmental disability. This is reinforced by the definition of developmental

disability outlined at the beginning of this thesis. Although he was found to have an IQ of 103, he demonstrated significant socially impaired functioning, and as illustrated by results on both the SSKAT and SSKAAT-R, this individual did not demonstrate great knowledge regarding sexuality. Moreover, he did not demonstrate significant improvement following education. Nonetheless, the inclusion of this individual in the sex education group is a limitation due to the controversy regarding Asperger's.

A second limitation to this study is that there was limited follow-up following the sex education classes. Participants in both the control group and testing group were retested on the SSKAT and SSKAAT-R 6 weeks after the initial assessment. Ideally, there should be at least a 3-month, 6-month, and 1-year follow-up to see if participants have retained the information they have acquired and are generalizing that information. The lack of longer and more frequent follow-up is due to the time constraints of this research thesis and follow-up is presently in the process. Results of this follow-up will be documented in a later publication.

Another limitation to this study is the length of time allotted for sexuality education. Participants received only 6 weeks of instruction in the *Life Horizons* curriculum and were therefore unable to complete the entire training package. Longer classes would hopefully have allowed for greater acquisition of knowledge, as well as increased application and generalizability of the information. Again, this was due to the time constraints of this academic thesis.

Another critique of this research could be the sample size. The sample size is quite small with only 16 participants in the sex education group and 16 participants in the control group. However, compared to previous studies described in the literature review,

the sample is actually quite large. Pedagogically, smaller class size is important for individuals who have developmental disabilities, so that they may receive individualized instruction and facilitators can recognize when an individual does not understand a particular concept. This allows the programme to be more customized to the individual needs of the participants.

Furthermore, as discussed in the literature review, when teaching sexuality education, class sizes need to be smaller due to the sensitive nature of the topic. This also allows for greater discussion and increased comfort in the participants and they will receive more personalized attention and conceivably gain greater benefits.

Another concern of the present study involves the use of the S-Bit for adults, especially for those who are already identified as having developmental disabilities. As can be evidenced by the S-Bit IQ scores, most of the participants fell within the profound level of mental retardation. However, participants seemed to function at a much higher level than this in their daily interaction. According to the agency that supports these individuals, most participants would be classified as having a moderate level of mental retardation. Consequently, their S-Bit IQ did not seem representative of their true level of intelligence. It is possible that the S-Bit may not be the best measure to use with adults who have developmental disabilities, although the author of the S-Bit felt that a score on the measure was extremely valid in separating normative from clinical groups, including mental retardation (G. Roid, personal communication, July 17, 2001). This is therefore an area that deserves greater attention in the research literature.

For the purposes of this study, the S-Bit was only used to see if there was a correlation between IQ and scores on the SSKAT and SSKAAT-R. However, perhaps

another assessment tool that is subtler in picking up level of disability would have been more useful. A suggestion is to use only the raw scores on the S-Bit as a means of comparison, rather than calculating an IQ score.

Another critique of the present research is that, as discussed by Lumley and Miltenberger (1997), outcome measure should be seen as increases in actual behaviours and skills rather than merely an increase in knowledge. The SSKAT and SSKAAT-R do not reflect behaviours; they assess knowledge and attitudes. However, as discussed in the literature review, there are many ethical issues involved in assessing behaviour change and skills. In situ assessment seems to be the most successful method for assessing this change; yet, this methodology can be very damaging to the individual. I believed that a less intrusive measure would be used in order to protect participants from the psychological damage that can result from in situ assessment. Furthermore, the assessment of attitude change, I feel, is a more practical way of assessing the effects of sex education. I feel that increasing a positive attitude toward sexuality in individuals is a great success, and perhaps even more important than knowledge acquisition. However, due to the restraints of time for this thesis, attitude changes were only touched upon. A more in-depth discussion of attitude change following sex education will occur in a later publication.

Another consideration with this study concerns the participants who did not complete the assessment tools in either the initial or follow-up assessment. This was also evident for Participant #9 who did not complete one portion of the Anatomy section; consequently, there was no total score on the post SSKAAT-R for this individual. Nevertheless, it is important to note that the revised SSKAAT-R stresses the importance

of asking permission to continue throughout the assessment. For example, before turning the page and asking questions about the female body, the clinician is to say, "On the next page, there are drawings of a woman who has no clothes on. Is it OK with you for me to turn the page?" (p. 3). Ethically, the researcher must respect the participant's wishes, even if this may have a negative impact on the research findings. It is interesting to note, however, that in the instance of Participant #9, it almost seemed to me that he was testing me to see what I would do if he said "no". He was looking at me to see my reaction and when I said "OK, no problem, we will move on then", he appeared quite shocked. Perhaps I could have asked again, but I felt that I must respect the participant's initial wish. Ethically, I did not want to coerce the participant, as was discussed in the ethical considerations of this study.

To further comment on this limitation, it must be noted that both participants who did not wish to complete the assessments in the pretest due to discomfort with the subject matter, managed to do so for the posttest. These two participants increased their comfort with regard to discussing sexuality. In my opinion, this demonstrates a great success. Although statistically this caused some problems for data analysis, the fact that these two individuals appeared desensitized to the topic of sexuality demonstrates the positive effect that sexuality education can have on individuals' comfort levels.

Another limitation, which also has implications for data analysis, is the uneven number of male and female participants in the study. There were more males than females in both the control and testing groups, which made it difficult for comparison of scores. However, this is largely due to accessibility. The agency serving the individuals participating in the sexuality education classes supports 128 individuals, including 75

males and 53 females. Therefore there were fewer females available to volunteer for this study.

Furthermore, many syndromes are more common in males than females, such as Fragile X Syndrome and Asperger's. Moreover, Klinefelter's Syndrome is exclusive to males, and individuals who have Lesch-Nyhan Syndrome are almost all males. Tourette's Syndrome is also 3 to 4 times more common in males than females (Cheetham, Gitta, & Morrison, 1999).

A final critique of this research involves the use of teaching in the SSKAAT-R. In the original administration of SSKAAT-R, participants were taught things that the individual did not know. For example, in the Intimacy section, participants are asked, "What does it mean to have an orgasm or to come?" (p. 29). If the participant does not know, the manual then instructs the clinician to explain, "An orgasm is part of sex that comes at the end and feels intense and good" (p. 29). Such explanations of the terminology can have a great impact on postscores, and may explain why some participants in the control group increased their scores on the SSKAAT-R in the post-assessment.

It is evident that there were some limitations to this study. Nevertheless, many of these were due to time constraints of the research thesis. Others were due to the fact that this study was a pilot of the revised SSKAAT-R. Several changes will be made to the revised assessment tool, as was discussed in the critique of the SSKAAT-R.

Recommendations

The present study demonstrated that sex education is successful at increasing knowledge regarding sexuality for individuals who have a developmental disability. This

was evident through increased scores on the SSKAT and SSKAAT-R by participants in the sex education classes. However, it was not found that gender of the participants had any significant effect on knowledge regarding sexuality, nor on how much participants learn in sex education. This is an area that deserves further inquiry.

Another area that deserves further attention is the issue of genetic diagnosis for participants. As was demonstrated in the literature review, genetic diagnosis can have a great impact on an individual's ability to learn in a particular setting or benefit from a particular method of instruction. Another benefit of understanding an individual's genetic diagnosis would be to understand the impact of the syndrome on his/her sexual functioning. As discussed in the literature review, many genetic syndromes, such as Asperger's Syndrome and Prader-Willi Syndrome, come with their own sexuality issues (Griffiths, Richards, et al., in press). If the instructor of a sex education class understood some of these issues, then education could be tailored to address these concerns. Furthermore, there are many esteem issues that accompany sexual difficulties. Consequently, future research should therefore look at specific genetic syndromes and educational settings in addition to the impact that syndromes can have on a person's experience of sexuality.

Another issue that requires further inquiry is the issue of IQ assessment for individuals who have developmental disabilities and the impact that this has on sexuality knowledge and knowledge acquisition. The present study did not find that IQ had any effect on knowledge regarding sexuality, but this could be due to the choice of assessment tool, the S-Bit. Further investigation is required, perhaps using other IQ assessment tools such as the Leiter-R.

Another recommendation involves the sex education training that is provided to individuals who have developmental disabilities. All sex education curricula and resources should include substantial, rather than marginal, representation of same-sex activity and relationships, especially between men, but also between women. All sexuality work should include an understanding of how gender power operates to advantage men and disadvantage women in most heterosexual encounters and seek to actively empower women. In short, those supporting people with disabilities with their sexual lives need to be aware of the reality of those lives and tailor their support accordingly (McCarthy, 1996).

With regard to the SSKAAT-R, it was demonstrated that the revised measure demonstrated great improvement over the original SSKAT. One of its greatest strengths was its utility for identifying weaknesses in the individual's knowledge and for providing insight into intervention. However, an important consideration is how clinicians should use the information once the assessment is complete. A raw score on the SSKAAT-R does not really tell us much about where clinicians or educators should begin with intervention. Therefore, there needs to be guidance on how to use results on the SSKAAT-R. This would provide the SSKAAT-R with much more clinical value and would greatly benefit the individual receiving the assessment.

Conclusions

In their survey, Griffiths and Lunsky (2000) noted a change in the priority of the items identified for inclusion in socio-sexual assessments and curricula for persons with developmental disabilities. This change in priority appears to reflect a general increase in the acceptance and understanding of the sexuality of individuals who have developmental

disabilities (Griffiths & Lunsky, 2000). It also suggests that caregivers, educators, family members, and clinicians are becoming more aware of the real and intrinsic risks of not addressing these issues. Griffiths and Lunsky (in press) state that the next step is to be sure that these issues are reflected in current and future assessment devices and curricula. Only then we can examine how satisfied individuals with developmental disabilities are with their sexual education, whether sexual abuse and STDs are less of a problem, and if sexuality educators find that the sex education curricula available address what they believe needs to be addressed.

The present study attempted to address these concerns; however, this is an area that still deserves further research. The present study demonstrated that sex education is successful in increasing knowledge regarding sexuality for individuals who have developmental disabilities. Nonetheless, future inquiry should look at the effect of gender of participants as well as the gender of education facilitators. Moreover, the present study demonstrated the strengths of the SSKAAT-R in assessing sexual knowledge and attitudes of individuals who have developmental disabilities. However, some weaknesses of this revised measure were identified, which need to be considered and re-evaluated.

References

Adams, G.L., Tallon, R.J., & Alcorn, D.A. (1982). Attitudes toward the sexuality of mentally retarded and nonretarded persons. Education and Training of the Mentally Retarded, 17 (4), 307-312.

Ames, T.R. (1991). Guidelines for providing sexuality-related services to severely and profoundly retarded individuals: The challenge for the 1990s. Sexuality & Disability, 9 (20), 113-122.

Atwood, T. (1998). Asperger's Syndrome: A guide for parents and professionals. London: Jessica Kingsley Publishers.

Bakken, J., Miltenberger, R.G., & Schauss, S. (1993). Teaching parents with mental retardation: Knowledge versus skills. American Journal on Mental Retardation, 97 (4), 405-417.

Bartel, N.R. & Meddock, T.D. (1989). AIDS and adolescents with learning disabilities: Issues for parents and educators. Reading, Writing, and Learning Disabilities, 5, 299-311.

Burns, J. (2000). Gender identity and women with learning disabilities: The third sex. Clinical Psychology Forum, 137, 11-15.

Canadian Association for Community Living (2000). What we do. [on-line]. Available: http://www.cacl.ca/english/what.html

Carmody, M. (1991). Invisible victims: Sexual assault of people with an intellectual disability. Australia & New Zealand Journal of Developmental Disabilities, 17 (2), 229-236.

Case, L. & Gang, B. (1999). People with disabilities as parents. In I. Brown & M. Percy (Eds.), Developmental disabilities in Ontario (pp. 181-197). Toronto, ON: Front Porch Publishing.

Cheetham, T., Gitta, M., & Morrison, B. (1999). Some common syndromes associated with developmental disabilities. In I. Brown & M. Percy (Eds.), Developmental disabilities in Ontario (pp. 253-272). Toronto, ON: Front Porch Publishing.

Cole, S. & Cole, T.M. (1993). Sexuality, disability, and reproductive issues through the lifespan. Sexuality and Disability, 11 (3), 189-204.

Coleman, E.M. & Murphy, W.D. (1980). A survey of sexual attitudes and sex education programs among facilities for the mentally retarded. Applied Research in Mental Retardation, 1, 269-276.

Conway, R.N.F. (1994). Abuse and intellectual disability: A potential link or an inescapable reality. Australia & New Zealand Journal of Developmental Disabilities, 19 (3), 165-171.

Corbett, K., Shurberg Klein, & Bregante, J.L. (1989). The role of sexuality and sex equity in the education of disabled women. Peabody Journal of Education, 64 (4), 198-212.

Doe, T. (1991). Towards an understanding: An ecological model of abuse. Developmental Disabilities Bulletin, 18 (2), 13-20.

Dykens, W.M., Hodapp, R.M., & Finucane, B.M. (2000). Genetics and mental retardation syndromes: A new look at behavior and interventions. Baltimore, MD: Paul H. Brookes Publishing.

Edmonson, B. (1980). Sociosexual education for the handicapped. Exceptional Education Quarterly, 1 (2), 67-76.

Edmonson, B., McCombs, K., & Wish, J. (1979). What retarded adults believe about sex. American Journal of Mental Deficiency, 84 (1), 11-18.

Edmonson, B. & Wish, J. (1975). Sexual knowledge and attitudes of moderately retarded males. American Journal of Mental Deficiency, 80 (2), 172-179.

Edmonson, B., Wish, J., & Fiechtl, K. (1977). Development of a sex knowledge and attitude test for the moderately and mildly retarded. (Final report. HEW Project No. G00-75-00382). Columbus, OH: The Nisonger Center, The Ohio State University.

Feldman, M.A. (1986). Research on parenting by mentally retarded persons. Psychiatric Clinics of North America, 9 (4), 777-796.

Finucane, B. (1996). What's so special about genetics?: A guide for special educators. Elwyn, PA: Elwyn.

Foley, R.M. (1995). Special educators' competencies and preparation for the delivery of sex education. Special Services in the Schools, 10 (1), 95-112.

Forchuk, C., Martin, M-L., & Griffiths, M. (1995). Sexual knowledge interview schedule: Reliability. Journal of Intellectual Disability Research, 39 (1), 35-39.

Gaus, V. (2000). "When mild is wild": Cognitive behavioral therapy for adults with Asperger Disorder and other Pervasive Developmental Disabilities. In A. Poindexter (Ed.), National Association for Dual Diagnosis 17th annual conference proceedings (pp. 63-66). New York: National Association for Dual Diagnosis.

Gilby, R. (1993). Parental concerns around sexuality education for their developmentally disabled children. SIECCAN Newsletter, 28 (1), 9-13.

Gillies, P. & McEwen, J. (1981). The sexual knowledge of the "normal" and mildly subnormal adolescent. The Health Education Journal, 40, 120-124.

Goldman, R.L. (1994). Children and youth with intellectual disabilities: Targets for sexual abuse. International Journal of Disability, Development, and Education, 41 (2), 89-102.

Griffiths, D. (1990a). Teaching social competency: Part 1. Practical guidelines. The Habilitative Mental Healthcare Newsletter, 9 (1), 1-5.

Griffiths, D. (1990b). Teaching social competency: Part 2. The social life game. The Habilitative Mental Healthcare Newsletter, 9 (2), 9-13.

Griffiths, D. (1999). Sexuality and people with developmental disabilities: Mythconceptions and facts. In I. Brown & M. Percy (Eds.), Developmental disabilities in Ontario (pp. 443-451). Toronto, ON: Front Porch Publishing.

Griffiths, D., Baxter, J., Haslam, T., Richards, D., Stranges, S., & Vyrostko, B. (1995). Building healthy boundaries project. Welland, ON: Welland District Association for Community Living.

Griffiths, D., Feldman, M.A., & Tough, S. (1997). Programming generalization of social skills in adults with developmental disabilities: Effects on generalization and social validity. Behavior Therapy, 28, 253-269.

Griffiths, D. & Lunsky, Y. (2000). Changing attitudes towards the nature of socio-sexual assessment and education for persons with developmental disabilities: A twenty year comparison. Journal on Developmental Disabilities, 7 (1), 16-33.

Griffiths, D. & Lunsky, Y. (in press). The Socio-Sexual Knowledge and Attitude Assessment Tool Instruction Manual. Wood Dale, IL: Stoelting.

Griffiths, D, Richards, D., Fedoroff, P., & Watson, S. (in press). Sexuality and mental health issues. In D. Griffiths, C. Stavrakaki, & J. Summers (Eds.), Mental health aspects of developmental disabilities (pp. 411-445).

Griffiths, D., Watson, S., Lewis, T., & Stoner, K. (in press). Sexuality research. In E. Emerson, C. Hatton, T. Parmenter, & R. Thompson (Eds.), International handbook of methods for research and evaluation in intellectual disabilities. London: Wiley.

Heshusius, L. (1982). Sexuality, intimacy, and persons we label mentally retarded: What they think-what we think. Mental Retardation, 20 (4), 164-168.

Hingsburger, D. (1987). Sex counselling with the developmentally handicapped: The assessment and management of seven critical problems. Psychiatric Aspects of Mental Retardation Reviews, 6, 41-45.

Hingsburger, D. (1990). I Contact: Sexuality and people with developmental disabilities. Mountville, PA: VIDA Publishing.

Hingsburger, D. (1993). Staff attitudes, homosexuality, and developmental disability: A minority within a minority. The Canadian Journal of Human Sexuality, 2 (1), 19-22.

Howell, D.C. (1995). Fundamental statistics for the behavioral sciences (3rd ed.). Belmont, CA: Wadsworth.

Jacobs, R., Samowitz, P., Levy, J.M., & Levy, P.H. (1989). Developing an AIDS prevention program for persons with developmental disabilities. Mental Retardation, 27 (4), 233-237.

Kempton, W. (1993). Sexuality and persons with disabilities that hinder learning: A comprehensive guide for trainers and professionals. Haverford, PA: Winifred Kempton.

Kempton, W. & Kahn, E. (1991). Sexuality and people with intellectual disabilities: A historical perspective. Sexuality and Disability, 9 (2), 93-112.

Kempton, W. & Stanfield, J. (1988a). Life Horizons 1. Santa Barbara, CA: James Stanfield.

Kempton, W. & Stanfield, J. (1988b). Life Horizons II. Santa Barbara, CA: James Stanfield.

Langone, J., Clees, T.J., Oxford, M., Malone, M., & Ross, G. (1995). Acquisition and generalization of social skills by high school students with mild mental retardation. Mental Retardation, 33 (3), 186-196.

Leiter, R.G. (1979). Leiter International Performance Scale. Wood Dale, IL: Stoelting.

Lindsay, W.R., Billshaw, E., Culross, G., Staines, C., & Michie, A. (1992). Increases in knowledge following a course of sex education for people with intellectual disabilities. Journal of Intellectual Disability Research, 26 (6), 531-539.

Lumley, V.A. & Miltenberger, R.G. (1997). Sexual abuse prevention for persons with mental retardation. American Journal on Mental Retardation, 101 (5), 459-472.

McCabe, M.P. (1994). Sexuality Knowledge, Experience and Needs Scale for People with Intellectual Disability (Sex Ken-ID). Burwoood: Deakin University.

McCabe, M.P. (1999). Sexual knowledge, experience, and feelings among people with disabilities. Sexuality & Disability, 17 (2), 157-170.

McCabe, M.P. & Cummins, R.A. (1996). The sexual knowledge, experience, feelings, and needs of people with mild intellectual disability. Education & Training in Mental Retardation & Developmental Disabilities, 31 (1), 13-21.

McCabe, M.P., Cummins, R.A., & Deeks, A.A. (1999). Construction and psychometric properties of sexuality scales: Sex knowledge, experience, and needs scales for people with intellectual disabilities (Sex Ken-ID), people with physical disabilities (SexKen-PD), and the general population. Research in Intellectual Disabilities, 20, 241-254.

McCabe, M.P. & Schreck, A. (1992). Before sex education: An evaluation of the sexual knowledge, experience, feelings, and needs of people with mild intellectual disabilities. Australia & New Zealand Journal of Developmental Disabilities, 18 (2), 75-82.

McCarthy, M. (1993). Sexual experiences of women with learning difficulties in long-stay hospitals. Sexuality and Disability, 11 (4), 277-286.

McCarthy, M. (1996). The sexual support needs of people with learning disabilities: A profile of those referred for sex education. Sexuality and Disability, 14 (4), 265-279.

McCarthy, M. (1999a). Guest editorial. British Journal of Learning Disabilities (special edition on sexuality issues), 27 (4), 122.

McCarthy, M. (1999b). Sexuality and women with learning disabilities. London: Jessica Kingsley Publishers.

McCarthy, M. (2001). Women with learning disabilities: Experiencing their sexuality in a healthy way. Tizard Learning Disability Review, 6 (1), 16-21.

Medlar, T. (1998). The manual of policies and procedures of the SHIP sexuality education program. Sexuality and Disability, 16 (1), 21-42.

Misra, A. (1992). Generalization of social skills through self-monitoring by adults with mild mental retardation. Exceptional Children, 58 (6), 495-507.

Monat-Haller, R. (1992). Understanding and expressing sexuality: Responsible choices for individuals with developmental disabilities. Baltimore, MA: Paul H. Brookes.

Nankoosing, K. & John, M. (1997). Friendships, relationships, and the management of rejection and loneliness by people with learning disabilities. Journal of Learning Disabilities for Nursing, Health and Social Care, 1 (1), 10-18.

Niederbuhl, J.M. & Morris, D. (1993). Sexual knowledge and the capability of persons with dual diagnoses to consent to sexual contact. Sexuality and Disability, 11 (4), 295-307.

Ousley, O.Y. & Mesibov, G.B. (1991). Sexual attitudes and knowledge of high-functioning adolescents and adults with autism. Journal of Autism and Developmental Disorders, 21 (4), 471-481.

Owen, F. & MacFarland, J. (in press). The nature of developmental disabilities. In D. Griffiths, C. Stavrakaki, & J. Summers (Eds.), Mental health aspects of developmental disabilities (pp. 1-45).

Page, A.C. (1991). Teaching developmentally disabled people self-regulation in sexual behaviour. Australia & New Zealand Journal of Developmental Disabilities, 17 (1), 81-88.

Rioux, M. (1996, Summer). Reproductive technology: A rights issue. Entourage, 5-7.

Rodriguez Rouse, M. & Pence Birch, L. (1991). Socialization and sex education: Life Horizons Curriculum Module. Santa Monica, CA: James Stanfield & Company.

Roid, G.H. & Miller, L.J. (1997). Leiter International Performance Scale-Revised. Wood Dale, IL: Stoelting Co.

Roid, G.H. & Miller, L.J. (1999). Examiner's manual for the Stoelting Brief Nonverbal Intelligence Test. Wood Dale, IL: Stoelting Co.

Roid, G.H. & Woodcock, R.W. (2000). Use of Rasch scaling in the measurement of cognitive development and growth. Journal of Outcome Measurement, 4 (2), 579-594.

Schultz, J.B. & Adams, D.U. (1987). Family life education needs of mentally disabled adolescents. Adolescence, 22 (8), 221-230.

Scotti, J.R., Speaks, L.V., Masia, C.L., Boggess, J.T., & Drabman, R.S. (1996). The educational effects of providing AIDS-risk information to persons with developmental disabilities: An exploratory study. Education and Training in Mental Retardation and Developmental Disability, 3 (12), 115-122.

Sobsey, D. (1988). Sexual victimization of people with disabilities: Professional and social responsibilities. Alberta Psychology, 17 (6), 8-9.

Sobsey, D. (1994). Violence and abuse in the lives of people with disabilities: The end of silent acceptance? Baltimore, MA: Paul H. Brookes.

Sobsey, D. (1995). Enough is enough: There is no excuse for a hundred years of violence against people with disabilities. In D. Sobsey, D. Wells, R. Lucardie, & S.

Mansell (Eds.), Violence and disability: An annotated bibliography (pp. ix-xvii). Baltimore, MD: Paul H. Brookes.

Sobsey, D. & Doe, T. (1991). Patterns of sexual abuse and assault. Sexuality and Disability, 9 (3), 243-259.

Sobsey, D. & Varnhagen, C. 91991). Sexual abuse, assault, and exploitation of Canadians with disabilities. In C. Bagley & J. Thomlinson (Eds.), Child sexual abuse: Critical perspectives on prevention, intervention, and treatment (pp. 203-216). Toronto, ON: Wall and Emerson.

Starkloff, C. & Starkloff, M. (1993). Matters of control: An oral history. In M. Nagler (Ed.), Perspectives on disability: Text and readings on disability (pp. 63-66). Palo Alton, CA: Health Markets Research.

Szollos, A.A. & McCabe, M.P. (1995). The sexuality of people with mild intellectual disability: Perceptions of clients and caregivers. Australia & New Zealand Journal of Developmental Disabilities, 20 (3), 205-222.

Thompson, D. (1994). The sexual experiences of men with learning disabilities having sex with men: Issues for HIV prevention. Sexuality and Disability, 12 (3), 221-242.

Thompson, D. (2001). Is sex a good thing for men with learning disabilities? Tizard Learning Disability Review, 6 (1), 4-12.

Ticoll, M. & Panitch, M. (1993). Opening the doors: Addressing the sexual abuse of women with an intellectual disability. Canadian Woman Studies, 13 (4), 84-87.

Timmers, R.L., DuCharme, P. & Jacobs, G. (1981) Sexual knowledge, attitudes, and behaviours of developmentally disabled adults living in a normalized apartment setting. Sexuality and Disability, 4, 27-39.

Tudiver, J., Broekstra, S., Josselyn, S., & Barbaree, H. (1997). Addressing the needs of developmentally delayed sex offenders: A guide. Ottawa, ON: Health Canada.

Whitehouse, M. & McCabe, M.P. (1997). Sex education programs for people with intellectual disability: How effective are they? Education and Training in Mental Retardation and Developmental Disabilities, 32 (3), 229-240.

Wish, J.R., Fiechtl McCombs, K., & Edmonson, B. (1980). The Socio-Sexual Knowledge and Attitude Test instruction manual. Wood Dale, IL: Stoelting Co.

Appendix A

Answer Form for the SSKAT

SOCIO-SEXUAL KNOWLEDGE and ATTITUDES TEST

RECORD FORM & PROFILE OF RESULTS

NAME _____ MALE _____ FEMALE _____

INITIAL TEST _____ RETEST _____

PLACE OF TESTING _____

EXAMINER _____

DATE OF EXAM _____ (year) _____ (month) _____ (day)

DATE OF BIRTH _____ _____ _____

AGE _____

RESIDENCE:

independent in community _____ institution _____ group home _____

family (own) _____ foster home _____ other _____

TEST BEHAVIOR:

Response to test:	no negative reaction observed _____	mild embarrassment or anxiety over testing _____	great embarrassment or anxiety observed _____
Cooperation	cooperative _____	somewhat un-cooperative _____	refusal to respond _____
Perseveration:	none _____	some _____	frequent _____
Speech:	intelligible _____	moderately intelligible _____	unintelligible _____
Guessing:	prone to guess _____	guessed when asked _____	resisted guessing _____
Rapport:	good rapport attained _____	moderate rapport attained _____	poor rapport attained _____
Appropriateness of Response:	good _____	moderate _____ (probing necessary)	poor _____ (extensive probing)
Vision:	no obvious visual problem noted _____	moderate visual problem noted _____	extensive visual problem noted _____

SOCIO-SEXUAL KNOWLEDGE and ATTITUDES TEST

RECORD FORM[1, 2]

I. ANATOMY-TERMINOLOGY

[_____] 1. woman: (2) woman (0) man; young girl; young boy

[_____] 2. man: (2) man (0) woman; young girl; young boy

[_____] 3. eyes: (2) eye(s); pupil(s); eyeball(s)
(1) eyelid(s); eyelash(es); head; face; eyebrow
(0) other

[_____] 4. belly button: (2) belly button; umbilicus; navel
(1) belly; dent; button; stomach; tummy
(0) other (include stomach-hole)

[_____] 5. penis: (2) penis; cock; tool; peter; meat; rod; organ; thing; dick; puck; pecker; weenie; ding dong; ding-a-ling; weener; jewels .
(1) private; privacy[3]
(0) other

[_____] 6. what used for (plus probe): (2) at least two of the following: anything related to making babies; anything related to sex (include "for a girl" or related, "rape" or related); anything related to masturbation; going to the bathroom
(1) one of the above
(0) other

[_____] 7. buttocks: (2) buttocks; backside; behind; ass; butt; tail; fanny; rump; seat; rear; bottom; rear-end; hind; hind-end; cheek(s); butt-hole; hine(y); bum; buns; keister; tousche; hole; crack
(0) other (include "back")

[_____] 8. leg: (2) leg(s) (1) back (0) other

[_____] 9. mouth: (2) mouth; lip(s); teeth; tooth (1) head, face (0) other

[_____] 10. breast: (2) breast(s); boob(s); bust(s); tit(s); shaker(s); bosom(s); apple(s); knocker(s); chest; bud(s); headlight(s); titty; titties; nipple(s)
(0) other

---

[1]Items marked [_____] are knowledge items and are scored: two points (fully correct), zero points (incorrect), and occasionally one point (partially correct, or at a lower level).

Items marked ◯ are attitude items and are scored: two points (positive attitude), one point (neutral attitude or indecisive), and zero points (negative attitude). Attitude questions are so scored because they are deemed culturally relative.

[2]Slang terms taken in part from Gordon, S. The Sexual Adolescent. Boston: Duxbury Press, 1973.

[3]These terms, sometimes used to refer to female genitals, do not reveal discrimination.

[_____] 11. what breast for: (2) anything related to baby, feeding baby and/or milk (e.g., "where babies suck on")
(1) to suck (no reference to infant); anything related to bra or brassiere
(0) other (including "sex", "for a boy")

[_____] 12. vulva: (2) vulva; vagina; box; snatch; muff; hair; tunnel; pussy; beaver; slit; mound; cherry; crotch; hole
(1) private; privacy
(0) other (include "for babies")

[_____] 13. what vulva for (plus probe): (2) any two of the following: anything related to making babies (including "menstruation" or related term); anything related to masturbation; any reference to sex; anything related to going to bathroom
(1) any one of the above
(0) other

ANATOMY TERMINOLOGY subtotal _____ points [_____]

II. MENSTRUATION

[_____] 14. bleed: (2) yes (0) no, other

[_____] 15. called: (2) menstruation; menstrual period; period; monthly bleeding; curse; friend; on the rag; wearing the rag
(1) bleeding
(0) other

[_____] 16. where: (2) vaginal area (0) other

17. O.K.: (2) yes (1) indefinite or neutral (0) no

[_____] 18. stop staining: (2) napkin/tampon (0) other

[_____] 19. misses: (2) doctor (o) other

MENSTRUATION Knowledge subtotal _____ points [_____]

Attitude subtotal _____ points 

III. DATING

[_____] 20. happening (date): (2) date; dating; courting; going together; boyfriend; girlfriend; friends; in love; like each other; engaged
(1) married; pure description even after probe
(0) other

[_____] 21. everyone: (2) no (0) yes, other

[_____] 22. workshop: (2) no (0) yes, other

[_____] 23. park: (2) yes (0) no, other

[_____] 24. social group: (2) yes (0) no, other

[_____] 25. date: (2) yes (0) no, other

[_____] 26. man/mother: (2) no (0) yes, other

[_____] 27. woman/father: (2) no (0) yes, other

◯ 28. person/unmarried: (2) yes (1) indefinite or neutral (0) no

[_____] 29. John: (2) female John's age (1) elderly woman (0) other

[_____] 30. Mary: (2) male Mary's age (1) elderly man (0) other

◯ 31. John/person: (2) yes(1) indefinite or neutral (0) no

◯ 32. Mary/person: (2) yes (1) indefinite or neutral (0) no

[_____] 33. holding hands: (2) yes (0) no, other

◯ 34. kissing: (2) yes (1) indefinite or neutral (0) no

◯ 35. naked touching: (2) yes (1) indefinite or neutral (0) no

◯ 36. intercourse: (2) yes (1) indefinite or neutral (0) no

[_____] 37. holding hands: (2) yes (0) no, other

[_____] 38. kissing: (2) yes (1) indefinite or neutral (0) no

◯ 39. naked touching: (2) yes (1) indefinite or neutral (0) no

◯ 40. intercourse: (2) yes (1) indefinite or neutral (0) no

DATING Knowledge subtotal _____ points [_____] Attitude subtotal _____ points ◯

IV. MARRIAGE

[_____] 41. married: (2) bride and groom (0) other

[_____] 42. everybody married: (2) no (0) yes, other

◯ 43. you married: (2) yes (1) indefinite or neutral (0) no

[_____] 44. why married: (2) positive feelings about each other (e.g., "love," "go to bed," "have sex," "want to"); to have babies, family or related
(1) outside pressure to do so (e.g., "have to"); indefinite (e.g., "cause they do," "go up in heaven")
(0) negative and other

[_____] 45. time: (2) yes (0) no, other

[_____] 46. fight: (2) yes (0) no, other

[_____] 47. him: (2) yes (0) no, other

[_____] 48. holding hands: (2) yes (0) no, other

[_____] 49. kissing: (2) yes (0) no, other

[_____] 50. naked embrace: (2) yes (0) no, other

[_____] 51. intercourse: (2) yes (0) no, other

MARRIAGE Knowledge subtotal _____ points [_____]

Attitude subtotal _____ points ◯

V. INTIMACY

[_____] 52. doing/touching: (2) touching; feeling; hugging; embracing; unclothed; naked or related; rubbing or related; loving
(1) sex or related indefinite term; pure description only (e.g., "lady and man") without action
(0) intercourse, having sex or related; other

53. O.K.: (2) yes (1) indefinite or neutral (0) no

54. why: (2) positive reason (1) indefinite or neutral reason (0) negative reason

[_____] 55. mother: (2) no (0) yes, other

[_____] 56. father: (2) no (0) yes, other

[_____] 57. man/brothers & sisters: (2) no (0) yes, other

[_____] 58. woman/brothers & sisters: (2) no (0) yes, other

[_____] 59. person/stranger: (2) no (0) yes, other

[_____] 60. husband/wife: (2) yes (0) no, other

61. married/unmarried: (2) yes (1) indefinite or neutral (0) no

[_____] 62. have to married: (2) no (0) yes, other

[_____] 63. baby: (2) no (0) yes, other

INTIMACY Knowledge subtotal _____ points _____

Attitude subtotal _____ points 

VI. INTERCOURSE

[_____] 64. doing: (2) intercourse; fuck(ing); make/making a baby; make/making love; make/making it; screw(ing); get(ting) laid; sleep(ing) with each other; hump(ing); go(ing) all the way; ball(ing); sex; have/having sex; get(ting) some. . .; get(ting) a piece (of . . .); knock(ing) off a piece (of . . .); jazz(ing); frig(ging); balk(ing); plough(ing); jive/jiving; going down; score/scoring; jumping; love; loving (each other)
(1) pure description (including "hugging")
(0) other

◯ 65. O.K.: (2) yes (1) indefinite or neutral (0) no

◯ 66. why: (2) positive feelings or reasons (e.g., "feels good," "love," "romantic")
(1) indefinite or neutral reason
(0) negative feelings or reason (e.g., "shouldn't do it")

◯ 67. O.K./not married: (2) yes (1) indefinite or neutral (0) no

◯ 68. O.K. with not married: (2) yes (1) indefinite or neutral (0) no

[_____] 69. man/woman: (2) yes (0) no, other

[_____] 70. man/boy: (2) no (0) yes, other

◯ 71. man/man: (2) yes (1) indefinite or neutral (0) no

[_____] 72. man/girl: (2) no (0) yes, other

◯ 73. woman/woman: (2) yes (1) indefinite or neutral (0) no

[_____] 74. woman/boy: (2) no (0) yes, other

[_____] 75. woman/man: (2) yes (0) no, other

[_____] 76. woman/girl: (2) no (0) yes, other

[_____] 77. father: (2) no (0) yes, other

[_____] 78. mother: (2) no (0) yes, other

[_____] 79. married: (2) yes (0) no, other

[_____] 80. man with brothers/sisters: (2) no (0) yes, other

[_____] 81. woman with brothers/sisters: (2) no (0) yes, other

◯ 82. boy/girl friend: (2) yes (1) indefinite or neutral (0) no

[_____] 83. where: (2) bedroom (0) other

[_____] 84. anywhere else: (2) no or bedroom (if not bedroom No. 83) (0) other

[_____] 85. O.K./stranger: (2) no (0) yes, other

[_____] 86. O.K./paid: (2) no (0) yes, other

[_____] 87. pay: (2) no (0) yes, other

88. feel: (2) happy (1) indefinite or no response (0) sad

INTERCOURSE Knowledge subtotal _____ points [___

Attitude subtotal _____ points

VII. PREGNANCY, CHILDBIRTH and CHILDREARING

[_____] 89. special: (2) pregnant; going to have baby or anything related to baby; knocked up
(1) fat; belly; stomach or other indefinite response
(0) other (e.g., "she's black")

90. why: (2) positive reason (1) neutral reason (0) negative reason

[_____] 91. every woman: (2) no (0) yes, other

[_____] 92. all married: (2) no (0) yes, other

[_____] 93. stork: (2) no (0) yes, other

[_____] 94. marriage: (2) no (0) yes, other

[_____] 95. lady eating: (2) no (0) yes, other

[_____] 96. intercourse: (2) yes (0) no, other

[_____] 97. kissing: (2) no (0) yes, other

[_____] 98. toilet: (2) no (0) yes, other

[_____] 99. woman swimming: (2) no (0) yes, other

[_____] 100. tell doctor: (2) yes (0) no, other

[_____] 101. grow: (2) any amount of time between seven and ten months
(1) between seven and ten without time qualifier (months)
(0) other

[_____] 102. childbirth: (2) childbirth; baby being born or anything with "birth" or "born"; come alive; having baby; (doctor) taking baby out of stomach, out of mother, out of vagina, etc; baby come out of mother, stomach, vagina or related
(1) description of scene and/or mention of baby or hospital without incorrect information (e.g., "he cries")
(0) description of scene with incorrect information or inference (e.g., "baby sick," "hurt," "dead," "dying," "strangled"); other

[_____] 103. where born: (2) hospital (0) other

[_____] 104. raise baby: (2) no (0) yes, other

[_____] 105. cost: (2) yes (0) no, other

[_____] 106. . . .if yes, No. 105/where: (2) work; job or activity where one or both parents take active "mother," "husband" or both
(1) recipient without activity or effort (e.g., where baby's grandp provide support, or other sources of support such as state, bar count, hospital, etc.)
(0) other

[_____] 107. food: (2) yes (0) no, other

[_____] 108. toys: (2) yes (0) no, other

[_____] 109. clothes: (2) yes (0) no, other

[_____] 110. doctor: (2) yes (0) no, other

111. you: (2) yes (1) indefinite or neutral (0) no

[_____] 112. home alone: (2) no (0) yes, other

[_____] 113. elderly lady: (2) yes (0) no, other

[_____] 114. intoxicated: (2) no (0) yes, other

[_____] 115. boy: (2) no (0) yes, other

[_____] 116. girl: (2) no (0) yes, other

[_____] 117. man: (2) yes (0) no, other

[_____] 118. woman: (2) yes (0) no, other

[_____] 119. grow: (2) intercourse (0) other

[_____] 120. . . .if correct No. 119/where put: (2) vaginal area (0) other

[_____] 121. where out: (2) vaginal area (0) other

PREGNANCY, CHILDBIRTH and CHILDREARING Knowledge subtotal _____ points]___

Attitude subtotal _____ points

VIII. BIRTH CONTROL

[_____] 122. used: (2) contraception; (contraceptives); birth control; stop a baby; no baby or related (including "keep from getting pregnant"); intercourse; sex or related
(1) naming of items; IUD, jelly, foam, diaphragm, birth control pills; condom, or related (including reading names in photograph); no VD or related
(0) drugs or medicine; other

[_____] 123. no baby: (2) contraception; [contraceptive(s)]; birth control; naming of specific means of birth control (e.g., IUD, jelly, condom, foam, diaphragm, birth [control] pills, sterilization)
(1) (a) pill; operation, medicine or drugs
(0) other (include abortion, adoption, coke)

[_____] 124. man use: (2) condom (0) other

[_____] 125. condom: (2) condom, rubber; prophylactic; condrum; safe; safety; "Shiek," "Trojan," or other brand name; raincoat; love glove; bag(s); skin(s); sheath(s); birth control; contraception, contraceptive or related
(1) Trojan ENZ only
(0) drugs or medicine; other

[_____] 126. who: (2) clothed man (0) other

[_____] 127. . . .if correct No. 126/point: (2) penis (0) other

[_____] 128. pills: (2) birth (control) pill(s); the pill; birth control; contraception, contraceptive or related
(1) pregnant pill(s); pill(s)
(0) drugs or medicine; other

[_____] 129. baby: (2) yes (0) no, other

[_____] 130. . . .if yes No. 129/where: (2) female mouth (1) female stomach (0) other

[_____] 131. special: (2) yes (0) no, other

[_____] 132. IUD: (2) IUD; "Coil," "Shield," or other brand name; birth control, contraception, contraceptive or related
(0) drugs or medicine; other

[_____] 133. baby: (2) yes (0) no, other

[_____] 134. . . .if yes No. 133/where: (2) female vaginal area (0) other

[_____] 135. diaphragm/jelly: (2) diaphragm; jelly; birth control; contraception, contraceptive or related
(1) specific brand name of vaginal jelly (e.g., "Ortho-gynol")
(0) drugs or medicine; other

[_____] 136. baby: (2) yes (0) no, other

[_____] 137. . . .if yes No. 136/where: (2) female vaginal area (0) other

[_____] 138. uses these: (2) yes (0) no, other

[_____], 139. not married: (2) yes (0) no, other

[_____] 140. operates: (2) sterilization; sterilized; fixed; vasectomy; hysterectomy; tubes tied; abortion or medical procedure which implies this
(0) other (including surgery, operation)

[_____] 141. man sterilized: (2) no (0) yes, other

[_____] 142. woman sterilized: (2) no (0) yes, other

[_____] 143. sex: (2) yes (0) no, other

[_____] 144. baby/do: (2) abortion or medical procedure implying this; see a doctor; go to hospital; have the baby AND give baby up for adoption
(1) uncertain of medical procedure used with some mention of ending life or stopping growth of baby; "have the baby" with no mention of adoption
(0) other (include "get rid of it")

BIRTH CONTROL Knowledge subtotal _____ points]_____]

IX. MASTURBATION

[_____] 145. doing: (2) masturbation; masturbates/masturbating; jack(ing) off; jerk(ing) off; come/coming; shoot(ing) wack(ing) off; beat(ing) off; beat the meat; playing with himself or related (e.g., "playing with it")
(1) hard on; erection; firm; boner; stiff; pure description[1]
(0) other

◯ 146. O.K.: (2) yes (1) indefinite or neutral (0) no

◯ 147. why: (2) positive reason
(1) indefinite or neutral reason (e.g., "nothing better to do," "don't know any better")
(0) negative reason

[_____] 148. where: (2) bathroom or bedroom (0) other

[_____] 149. anywhere else: (2) bathroom or bedroom (whichever not selected, No. 148 above)
(1) no (if bathroom or bedroom selected, No. 148 above)
(0) other

◯ 150. happen: (2) positive (1) indefinite or neutral (0) negative (e.g., "infection," "hurt self," "bleed")

[_____] 151. doing: (2) masturbation; masturbates/masturbating; jack(ing) off; jerk(ing) off; come/coming; shoot(ing); wack(ing) off; beat(ing) off; beat the meat; playing with herself or related (e.g., "playing with her body")
(1) pure description
(0) other

◯ 152. O.K.: (2) yes (1) indefinite or neutral (0) no

◯ 153. why: (2) positive reason (1) indefinite or neutral reason (0) negative reason

[_____] 154. where: (2) bathroom or bedroom (0) other

[_____] 155. anywhere else: (2) bathroom or bedroom (whichever no selected, No. 154 above)
(1) no (if bathroom or bedroom selected, No. 154 above)
(0) other

◯ 156. happen: (2) positive (1) indefinite or neutral (0) negative

[_____] 157. baby: (2) no (0) yes, other

◯ 158. why: (2) positive reason (e.g., "she thinks about boy")
(1) indefinite or neutral reason (e.g., "don't know better," "feel like it," "nothing else to do")
(0) negative reason

◯ 159. feel: (2) happy (1) indefinite or no response (0) sad

MASTURBATION Knowled subtotal _____ points [_____]

Attitud subtotal _____ points ◯

[1]These options are terms for a condition that can occur without masturbation.

X. HOMOSEXUALITY

[_____] 160. called/homosexuality: (2) homosexual(ity); fag; homo; AC-DC; fairy; gay; pansy; pervert; prevert; queer; nellie; faggot; swish; queen; sister or any other reference to homosexuality
(1) uncertain terms such as love, sex, making love, romance, etc; pure description
(0) other

◯ 161. O.K.: (2) yes (1) indefinite or neutral (0) no

◯ 162. why: (2) positive reason (1) indefinite or neutral reason (0) negative reason

[_____] 163. most people: (2) no (0) yes, other

◯ 164. happen: (2) positive consequence (e.g., "fall in love with each other")
(1) indefinite or neutral consequence (e.g., "nothing")
(0) negative consequence

[_____] 165. where: (2) bedroom (0) other

[_____] 166. anywhere else: (2) no (or bedroom, if not above, No. 165) (0) other

[_____] 167. called/homosexuality: (2) homosexual(ity); lesbians; fag; homo; AC-DC; fairy; gay; pansy; pervert; prevert; queer; nellie; faggot; swish; queen; sister or any other reference to homosexuality
(1) uncertain terms such as love, romance, sex, making love, having sex or related; pure description
(0) other

◯ 168. O.K.: (2) yes (1) indefinite or neutral (0) no

◯ 169. why: (2) positive reason (1) indefinite or neutral reason (0) negative reason (e.g., "supposed to be a man")

[_____] 170. most people: (2) no (0) yes, other

◯ 171. happen: (2) positive consequence (e.g., "fall in love with each other")
(1) indefinite or neutral consequence (e.g., "nothing")
(0) negative consequence

[_____] 172. where: (2) bedroom (0) other

[_____] 173. anywhere else: (2) no (or bedroom if not above, No. 172) (0) other

◯ 174. feel: (2) happy (1) indefinite or no response (0) sad

HOMOSEXUALITY Knowledge subtotal _____ points [_____]

Attitude subtotal _____ points ◯

XI. VENERAL DISEASE

[_____] 175. V.D.: (2) syphillus; gonnorhea; a disease with proper explanation and/or related to sex or genitals; clap; siff (syph); crabs; drip; bad blood; morning dew; a strain; pox; blue balls; whites; Lord Joe; dose
(1) a disease, a sickness, illness or related (e.g., "blood disease," "disease of heart")
(0) other

[_____] 176. V.D./intercourse: (2) yes (0) no, other

[_____] 177. V.D./toilet: (2) no (0) yes, other

[_____] 178. V.D./shaking hands: (2) no (0) yes, other

[_____] 179. man/tell: (2) doctor (0) other

[_____] 180. woman/tell: (2) doctor (0) other

[_____] 181. woman/intercourse: (2) no (0) yes, other

[_____] 182. woman/social group: (2) yes (0) no, other

[_____] 183. woman/shaking hands: (2) yes (0) no, other

[_____] 184. man/intercourse: (2) no (0) yes, other

[_____] 185. man/social group: (2) yes (0) no, other

[_____] 186. man/shaking hands: (2) yes (0) no, other

VENEREAL DISEASE Knowledge subtotal _____ points [_____]

XII. ALCOHOL and DRUGS

[_____] 187. beer: (2) beer (1) alcohol; booze; liquor (0) whiskey; wine drink; root beer; other

◯ 188. O.K.: (2) yes (1) indefinite or neutral (0) no

[_____] 189. wine: (2) wine: (2) wine (1) alcohol; booze; liquor (0) whiskey; drink; beer; other

◯ 190. O.K.: (2) yes (1) indefinite or neutral (0) no

[_____] 191. whiskey: (2) whiskey or scotch (1) alcohol; bourbon; booze; liquor (0) wine; drink; beer; other

◯ 192. O.K.: (2) yes (1) indefinite or neutral (0) no

◯ 193. why: (2) positive reason (e.g., "tastes good," "want to," "like it," "to get high (or drunk)," "to get stoned (or polluted)", "because friends do," "to celebrate"
(1) indefinite or neutral
(0) negative reason [e.g., "to get away (from problems)," "addicted"]

[_____] 194. feel: (2) drunk, high, stoned or related; headache; sick; hungover; pass out; dizzy or related (e.g., "moving back and forth"); silly; dopey
(1) less definite (such as happy, bad, good, fine or related, funny, drowsy, tired or related)
(0) other (including got to hospital, weak, sad)

[_____] 195. . . .if no drunk/drunk: (2) yes (0) no, other

[_____] 196. you/drunk: (2) yes (0) no, other

[_____] 197. act different: (2) yes (0) no, other

[_____] 198. feels drunk: (2) drunk person (0) other

[_____] 199. take ride: (2) no (0) yes, other

◯ 200. O.K./home: (2) yes (1) indefinite or neutral (0) no

[_____] 201. O.K./work: (2) no (0) yes, other

[_____] 202. marijuana: (2) marijuana; pot; dope; grass; weed; joint; reefer; lid (0) other

[_____] 203. feel: (2) high; stoned; carefree, easygoing, or related (e.g., "see things," "hallucinate"); dopey; silly
(1) less definite (include drowsy, tired or related; happy; good, fine, or related; dizzy or related)
(0) drunk; headache; bad; sick; hungover or related (e.g., "terrible," "go to hospital", other)

[_____] 204. you/feel: (2) high; stoned; carefree, easygoing or related (e.g., "see things," "hallucinate"); dopey; silly
(1) less definite (include drowsy, tired, or related; happy; good, fine, or related; dizzy or related)
(0) drunk; headache; bad; sick; hungover or related (e.g., "terrible," "go to hospital"); other

[_____] 205. happen: (2) busted by police (0) other

[_____] 206. medicine: (2) no (0) yes, other

[_____] 207. swallow it: (2) no (0) yes, other

[_____] 208. eat it: (2) no (0) yes, other

ALCOHOL and DRUGS Knowledge subtotal _____ points [_____]

Attitude subtotal _____ points

XIII. COMMUNITY RISKS and HAZARDS

[_____] 209. ride: (2) no (0) yes, other

[_____] 210. woman ride: (2) no (0) yes, other

211. woman hitchhike: (2) yes (1) indefinite or neutral (0) no

212. man hitchhike: (2) yes (1) indefinite or neutral (0) no

[_____] 213. arrest: (2) yes (0) no, other

[_____] 214. safest: (2) female daytime curb (0) other

[_____] 215. safest: (2) female alone daytime (0) other

[_____] 216. have to: (2) no (0) yes, other

[_____] 217. peek: (2) no (0) yes, other

[_____] 218. gun or knife: (2) give money (0) other

[_____] 219. man/touch: (2) no (0) yes, other

[_____] 220. woman/touch: (2) no (0) yes, other

[_____] 221. stranger/touch: (2) no (0) yes, other

[_____] 222. pants/dress: (2) no (0) yes, other

[_____] 223. penis: (2) no (0) yes, other

[_____] 224. penis/not want: (2) rape
(1) intercourse or anything related (include slang terminology listed in No. 64); bad, wrong, dirty, nasty, or related
(0) other

[_____] 225. man/into woman: (2) no (0) yes, other

[_____] 226. kiss: (2) no (0) yes, other

[_____] 227. sex: (2) no (0) yes, other

[_____] 228. Playboy: (2) naked woman (0) other

[_____] 229. read/workshop: (2) no (0) yes, other

230. read/bedroom: (2) yes (1) indefinite or neutral (0) no

[_____] 231. man/bathroom: (2) men's room sign (0) other

[_____] 232. woman/bathroom: (2) women's room sign (0) other

COMMUNITY RISKS and HAZARDS Knowledge subtotal _____ points [_____]

Attitude subtotal _____ points 

XIV. TERMINOLOGY CHECK

[_____] 233. masturbation: (2) masturbation (0) other

[_____] 234. intercourse: (2) intercourse (0) other

[_____] 235. homosexuality: (2) homosexuality (0) other

[_____] 236. pregnant: (2) pregnant (0) other

[_____] 237. birth control: (2) birth control devices (0) other

[_____] 238. beer: (2) beer (0) other

[_____] 239. penis: (2) naked male, front view, penis only (0) other

[_____] 240. vagina: (2) naked female, front view, vagina (vulva) only (0) other

TERMINOLOGY CHECK Knowledge subtotal _____ points [_____]

RECORD SUBTOTAL KNOWLEDGE ([_____])
SCORES BELOW

RECORD SUBTOTAL ATTITUDE
SCORES BELOW

I.	Anatomy Terminology	_____	
II.	Menstruation	_____	Menstruation _____
III.	Dating	_____	Dating _____
IV.	Marriage	_____	Marriage _____
V.	Intimacy	_____	Intimacy _____
VI.	Intercourse	_____	Intercourse _____
VII.	Pregnancy, Childbirth, Childrearing	_____	Pregnancy, Childbrith, Childrearing _____
VIII.	Birth Control	_____	
IX.	Masturbation	_____	Masturbation _____
X.	Homosexuality	_____	Homosexuality _____
XI.	Venereal Disease	_____	
XII.	Alcohol & Drugs	_____	Alcohol & Drugs _____
XIII.	Community Risks & Hazards	_____	Community Risks & Hazards _____
XIV.	Terminology Check	_____	
	TOTAL	_____	

Appendix B

Answer Form for the SSKAAT-R

SOCIO SEXUAL KNOWLEDGE AND ATTITUDES ASSESSMENT TOOL (SSKAAT) RECORD FORM

Person's Name:_____ **Gender: M F Age:**_____

Person's Date of Birth: ___/_____/_____ **Today's Date:** ___/_____/_____ **Ethnicity**_____
Mo Day Yr Mo Day Yr

Field Researcher Case Number: _____ **Field Test Site:**_____**ID Num:**_____

Directions: Circle the person's response and score for each item.

I. ANATOMY

	Response	Score		
1. man	**A1** A2 A4 A3	0	1	
2. girl	A1 A2 **A4** A3	0	1	
3. man – woman		0	1	2
4. boy – man		0	1	2
5. girl – woman		0	1	2

MAN	6. verbal		7. pointing	
a. Eyes	0	1	0	1
b. Nose	0	1	0	1
c. Leg	0	1	0	1
d. Belly Button	0	1	0	1
e. Penis	0	1	0	1
f. Feet	0	1	0	1
g. Testicles	0	1	0	1
h. Nipples / Breasts	0	1	0	1
	_____		_____	
8. penis	0	1	2	

WOMAN	9. Verbal		10. Pointing	
a. Arm	0	1	0	1
b. Shoulder	0	1	0	1
c. Mouth	0	1	0	1
d. Breasts	0	1	0	1
e. Neck	0	1	0	1
f. Hips	0	1	0	1
g. Buttocks /Behind	0	1	0	1
h. Pubic area / Vagina	0	1	0	1
	_____		_____	
11. breasts	0	1	2	
12. vagina	0	1	2	

ANATOMY - KNOWLEDGE TOTAL _____

II. WOMEN'S BODIES (FOR WOMEN ONLY)

	Response	Score		
1. privacy	**B2** B1 B5 **B4**	0	1	
2. menstruation		0	1	
3. menstruation – who	A1 **A2** A3 A4 A5	0	1	
4. menstruation – where		0	1	
5. (A) Period		not OK	OK	
6. period stain	1 **2** **3** 4	0	1	2
7. Janet pregnant		0	1	2
8. Marcia – period		0	1	
9. pad care	adhesive	0	1	
	correct placement	0	1	
	remove	0	1	
	wrap	0	1	
	garbage	0	1	
10. change pad		0	1	
11. period frequency		0	1	
12. menopause		0	1	
13. menopause – who	A1 A2 A4 **A5**	0	1	
14. masturbation		0	1	2
15 (A). Masturbation		not OK	OK	
16. masturbation –where	**B2** **B4** B3 B1	0	1	
17. masturbation – pregnancy	Y **N**	0	1	
18. after masturbation		0	1	
19. erotica		0	1	2
20. (A) Erotica		not OK	OK	
21. erotica – where	**B2** B3 **B4** B1	0	1	
22. cancer		0	1	2
23. cancer prevention		0	1	2
24. breast lump		0	1	
25. mammogram		0	1	2
26. mammogram frequency		0	1	
27. pelvic exam		0	1	2
28. pelvic exam frequency		0	1	
29. pelvic instruments	**1** 2 3 **4**	0	1	2

WOMEN'S BODIES – KNOWLEDGE TOTAL _____

III. MEN'S BODIES (FOR MEN ONLY)

	Response	Score		
1. privacy	**B4 B2** B1 B5	0	1	
2. erection	1 **2**	0	1	
3. masturbation		0	1	2
4. (A) Masturbation		not OK	OK	
5. masturbation – where	B3 **B4 B2** B1	0	1	
6. masturbation – pregnancy	Y **N**	0	1	
7. masturbation – disease	Y **N**	0	1	
8. ejaculation	**1** 2	0	1	
9. masturbation – after		0	1	
10. erotica		0	1	2
11. (A) Erotica		not OK	OK	
12. erotica – where	**B2** B3 **B4** B1	0	1	
13. cancer		0	1	2
14. cancer – prevention		0	1	2
15. lump in testicle		0	1	
16. PSA test		0	1	
17. PSA – frequency		0	1	
18. George – urine sting		0	1	
19. check up frequency		0	1	

MEN'S BODIES – KNOWLEDGE TOTAL _____

IV. INTIMACY

	Response	Score					
1. date	1 2 **3** 4	**0**	1				
2. married	**1** 2 3 4	0	1				
3. hand holding		0	1				
		first date		lots of dates		marriage	
4. (A) Hand holding		not OK	OK	not OK	OK	not OK	OK
5. hand holding – where	B1 **B5 B6 B7**	0	1				
6. men hugging		0	1				
		first date		lots of dates		marriage	
7. (A) Men hugging		not OK	OK	not OK	OK	not OK	OK
8. kissing		0	1				

IV. INTIMACY (continued)

	Response	Score			
		first date	lots of dates	marriage	
9. (A) kissing		not OK OK	not OK OK	not OK OK	
10. women kissing		0	1		
		first date	lots of dates	marriage	
11. (A) Women kissing		not OK OK	not OK OK	not OK OK	
12. petting		0	1		
		first date	lots of dates	marriage	
13. (A) petting		not OK OK	not OK OK	not OK OK	
14. petting – where	B1 **B5** B6 B7	0	1	2	
15. vaginal intercourse		0	1		
		first date	lots of dates	marriage	
16. (A) Vaginal intercourse		not OK OK	not OK OK	not OK OK	
17. vaginal – where	**B4** B1 B6 B7	0	1		
18. men anal sex		0	1	2	
		first date	lots of dates	marriage	
19. (A) Men's anal intercourse		not OK OK	not OK OK	not OK OK	
20. oral sex	1 2 **3** 4	0	1		
21. kissing	**1** 2 3 4	0	1		
22. anal sex	1 2 3 **4**	0	1		
23. sexual intercourse	1 **2** 3 4	0	1		
24. orgasm		0	1	2	
25. man orgasm	**Y** N	0	1		
26. woman orgasm	**Y** N	0	1		
27. date activities		0	1	2	
28. planning a date		0	1	2	3
29 (A). marriage		not OK OK			
30. marriage – why		0	1	2	
31. marriage – what to do		0	1	2	
32. (A) Samantha work		not OK OK			
33. (A) Mark cleans		not OK OK			
34. (A) Mark changes diaper		not OK OK			
35. (A) Women marriage		not OK OK			

INTIMACY – KNOWLEDGE TOTAL _____

V. PREGNANCY CHILDBIRTH AND CHILD REARING

	Response	Score		
1. who is pregnant	1 2 **3 4**	0	1	
2. how know pregnant		0	1	
3. who can get pregnant	A1 **A2** A3 A4 A5 **A6**	0	1	2
4. couples to make a baby	1 2 3 **4**	0	1	
5. how woman pregnant	1 **2** 3 4	0	1	
6. pregnancy and menstruation	**Y** N	0	1	
7. pregnancy and first time sex	**Y** N	0	1	
8. period and pregnant	Y **N**	0	1	
9. Janet and pregnant		0	1	
10. gestation time		0	1	
11. good activities	1 **2** **3 4**	0	1	2
12. bad activities	**1 2** **3** 4	0	1	2
13. where baby comes out		0	1	
14. where give birth		0	1	
15. childbirth		0	1	
16. what babies need	**1** 2 **3 4**	0	1	2
17. what happens if care is poor		0	1	2
18. diaper		0	1	
19. food for babies	1 2 **3** 4	0	1	
20. burping		0	1	2
21. baby crying		**0**	1	2
22. baby alone	Y **N**	**0**	1	
23. baby with fever		0	1	
24. babysitter	**A2** A4 A7 A8	**0**	1	
25. (A) Disabled woman and baby		not OK	OK	
26. pregnant but doesn't want		**0**	1	
27. adoption		0	1	
28. abortion		0	1	
29. (A) Abortion		not OK	OK	
30. who performs abortion		0	1	
31. baby after abortion	**Y** N	0	1	
32. miscarriage		0	1	

PREGNANCY, CHILDBIRTH AND CHILD REARING – KNOWLEDGE TOTAL _____

VI. BIRTH CONTROL AND STD's

	Response	Score			
1. birth control pills	1 **2** 3 4	0	1		
condoms	**1** 2 3 4	0	1		
abstinence	1 2 **3** 4	0	1		
depo-provera	1 2 3 **4**	0	1		
2. birth control – men	**1** 2 **3** 4	0	1	2	
3. birth control – women	1 **2** **3** **4**	0	1	2	
4. (A) Birth control		not OK	OK		
5. abstinence		0	1		
6. sterilization – women		0	1	2	
7. Sarah – sterilized	**Y** N	0	1		
8. sterilization – men		0	1	2	
9. Peter – sterilized	**Y** N	0	1		
10. birth control pills		0	1	2	
11. birth control pills – how?		0	1		
12. birth control pills – frequency		0	1		
13. Karen – forgot pills		0	1		
14. Janet – forgot pills		0	1	2	
15. condoms		0	1	2	
16. condoms – where?		0	1		
17. spermicide		0	1		
18. old condom		0	1	2	
19. condom rips		0	1		
20. condom after use		0	1	2	
21. condom - hand washing		0	1		
22. condom and re-use	Y **N**	**0**	1		
23. condom – step by step		0	1		
carefully out of package		0	1		
rolled out the right way		0	1		
rolled on to model		0	1		
end held		0	1		
rolled up shaft		0	1		
hold end		0	1		
roll down		0	1		
24. STD's		0	1	2	
25. HIV/AIDS		0	1	2	
26. to catch STD	1 **2** 3 4	0	1		
27. to catch HIV	**1** 2 **3** 4	0	1	2	3
28. couples with STD	**1** 2 **3** 4	0	1		
29. protection from STD	**1** 2 3 4	0	1	2	

30. STD – can you tell?	Y N	0	1
31. Alex – tell about STD		0	1
32. STD - what doctor does		0	1
33. STD and disclosure (Alex)	Y N	0	1
34. (A) Work and STD		not OK	OK
35. (A) Friends and STD		not OK	OK

BIRTH CONTROL AND STD'S – KNOWLEDGE TOTAL _____

VII. HEALTHY BOUNDARIES

	Response	Score				
1. most like you (gender and age)	A1 A2 A3 A4 A9 A10	0	1			
2. romantic date (age)	**A1 A2** A3 A4 A9 A10	0	1			
3. sex (age)	**A1 A2** A3 A4 A9 A10	0	1			
		description		appropriate		
4. man grabbing child		0	1	N Y	0	1
5. staff shaking hands		0	1	N **Y**	0	1
6. two men - inappropriate touching		0	1	**N** Y	0	1
7. mom hugging child		0	1	N **Y**	0	1
8. Ted – man touching his behind		0	1			
9. Ted – offering money to touch him		0	1			
10. Martha and Paul – he wants to touch	Y N	0	1			
11. Jim touching Paula	Y N	0	1			
12 Jim bribing Paula with movie	Y N	0	1			
13. Paula – what to do?		0	1	2		
14. Sandy – under covers		0	1	2		
Something wrong with these pictures:						
15. exposure		0	1			
16. inappropriately dressed		0	1			
17. voyeur		0	1			
18. Appropriate activities with staff		0	1	2	3	4
	1 **2**					
	3 4					
19. Appropriate activities with child		**0**	1	2	3	4
	1 **2**					
	3 4					
20. Sarah – incest	Y **N**	0	1	2		
21. Karen – on date, breasts	Y **N**	0	1			
22. Rape		0	1	2		
23. Rape – against law	**Y** N	0	1			
24. Rape – who to tell?	C13 C14 **C15** C16	0	1	2		
25. Consequence of police report		0	1			
26. Susan – dentist touching	Y **N**	0	1	2		
27. Mary and John – consensual touch	**Y** N	0	1	2		

HEALTHY BOUNDARIES – KNOWLEDGE TOTAL _____

Person's Name:_____ **SSKAAT ATTITUDES SUMMARY SHEET**

(please transfer scores from prior sheets to this sheet to summarize attitudes of interviewee)

Women's Issues (II. WOMEN'S BODIES)

5.	(A) Period	not OK OK
15.	(A) Masturbation	not OK OK
20.	(A) Erotica	not OK OK

Men's Issues (III. MEN'S BODIES)

4.	(A) Masturbation	not OK OK
11.	(A) Erotica	not OK OK

Attitudes toward heterosexual intimacy (IV. INTIMACY)

		First date	**Lots of dates**	**Marriage**
4.	(A) Hand holding	not OK OK	not OK OK	not OK OK
		first date	lots of dates	marriage
9.	(A) Kissing	not OK OK	not OK OK	not OK OK
		first date	lots of dates	marriage
13.	(A) Petting	not OK OK	not OK OK	not OK OK
		first date	lots of dates	marriage
16.	(A) Vaginal intercourse	not OK OK	not OK OK	not OK OK

Attitudes toward homosexuality (IV. INTIMACY)

		First date	**Lots of dates**	**Marriage**
7.	(A) Men hugging	not OK OK	not OK OK	not OK OK
		first date	lots of dates	marriage
11.	(A) Women kissing	not OK OK	not OK OK	not OK OK
		first date	lots of dates	marriage
19.	(A) Men's anal intercourse	not OK OK	not OK OK	not OK OK
35.	(A) Women marriage		not OK OK	

Attitudes toward marriage and gender roles in marriage (IV. INTIMACY)

29.	(A) marriage	not OK OK
32.	(A) Samantha work	not OK OK
33.	(A) Mark cleans	not OK OK
34.	(A) Mark changes diaper	not OK OK

Attitude toward women with disabilities as mothers (V. PREGNANCY AND CHILD REARING)

25.	(A) Disabled woman and baby	not OK OK

Attitude toward Abortion (V. PREGNANCY AND CHILD REARING)

29.	(A) Abortion	not OK OK

Attitude toward use of birth control (VI. BIRTH CONTROL AND STD'S)

4.	(A) Birth control	not OK OK

Attitudes toward acceptance of people with HIV/AIDS (VI. BIRTH CONTROL AND STD'S)

34.	(A) Work and STD	not OK OK
35.	(A) Friends and STD	not OK OK

Additional comments or observations:

_____

_____

_____

_____

Appendix C

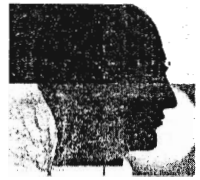
Answer Form for the S-Bit

Name _____ Sex _____

ID Name/School _____ Grade _____

Color Blindness ☐ Y ☐ N Other vision problem ☐ Y ☐ N

Examiner _____



S-BIT

Stoelting Brief Nonverbal Intelligence Test

Record/Profile Form

STEP 1

	Year	Month	Day
Date Tested			
Date of Birth			
Age			

STEP 2

Subtest Scores			Composite Scores		
S-BIT Subtests	Raw Scores	Scaled Scores	S-BIT IQ	Visualization	Fluid Reasoning
Figure Ground (FG)					
Form Completion (FC)					
Sequential Order (SO)					
Repeated Patterns (RP)					①* ②
*Enter RP Scaled Score twice in this area					
Sum of Scaled Scores			S-BIT IQ	Visualization	Fluid Reasoning
To calculate IQ/Composite scores, go to Appendix B, Table →			B-1	B-2	B-3
Record the: IQ/Composite Scores					
Percentile Scores →					
_____% Confidence Interval			—	—	—

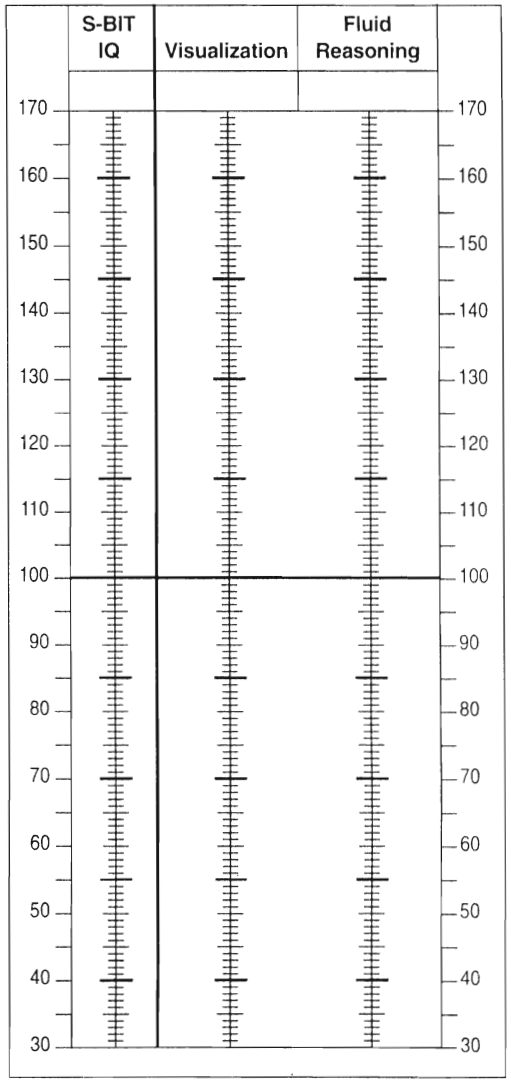
STEP 3

Profile of Subtest Scores

	Visualization FG	Visualization FC	Reasoning SO	Reasoning RP	
19	•	•	•	•	19
18	•	•	•	•	18
17	•	•	•	•	17
16	•	•	•	•	16
15	•	•	•	•	15
14	•	•	•	•	14
13	•	•	•	•	13
12	•	•	•	•	12
11	•	•	•	•	11
10	•	•	•	•	10
9	•	•	•	•	9
8	•	•	•	•	8
7	•	•	•	•	7
6	•	•	•	•	6
5	•	•	•	•	5
4	•	•	•	•	4
3	•	•	•	•	3
2	•	•	•	•	2
1	•	•	•	•	1

STEP 4

Profile of IQ/Composite



Instructions for Norm Referenced Scores

Step 1: Enter the Date of Testing and the Subject's Date of Birth. Calculate the Subject's Age.

Step 2: Enter the Subtest Raw Scores. Go to Appendix A and convert the Subtest Raw Scores to Scaled Scores. Copy the Scaled Scores in the empty boxes of the Composite Scores columns. Sum the Composite Score columns and record in the Sum of Scaled Scores boxes.

Next, go to Appendix B, Tables B-1, B-2 and B-3 to calculate the IQ Composite Scores, Percentile Scores and Confidence Intervals for each Composite. Record these Scores in the appropriate cells on the record form.

Step 3: Record and Profile the Subtest Scaled Scores.

Step 4: Record and Profile the IQ/Composite Scores.

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Step 1: Enter Subtest Raw Scores in the first 5 columns as appropriate.

Step 2: Sum columns 2 thru 4, and record in shaded areas.

Step 3: For the Subtests: Enter Growth Scale Values and SEM from Record Form or Table L-2.

Calculate the Confidence Interval, and obtain Age Equivalence from Table N-1.

Step 4: For the S-BIT IQ/Composite: Enter Growth Scale Values, and SEM from Tables L-1, L-2, L-3.

Calculate the Confidence Interval, obtain Age Equivalence from Table N-1.

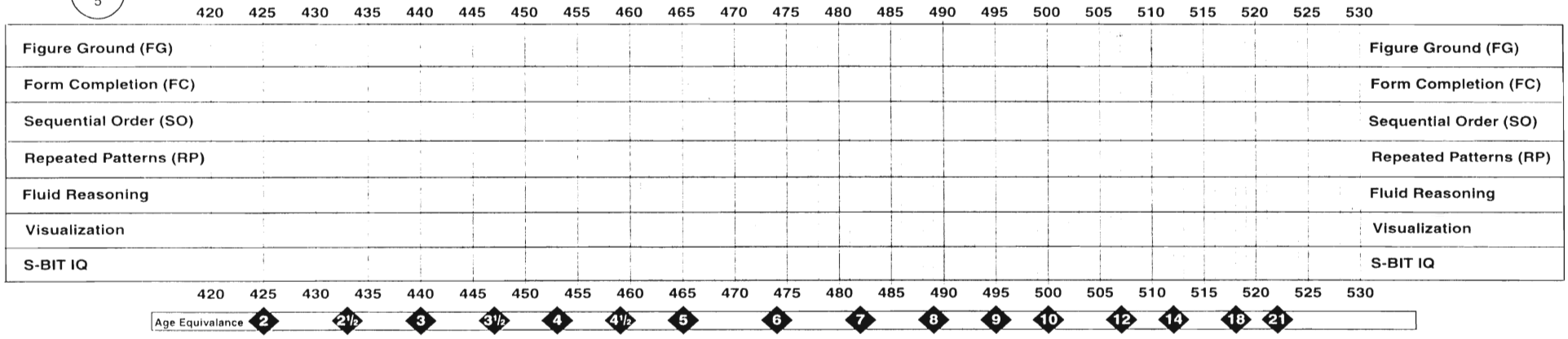
Step 5: Profile the Growth Scale Scores and Plot Item Maps.

	STEP 1	STEP 2			STEPS 3 & 4	Growth Scale Information				
Subtests	Raw Scores	S-BIT IQ	Visualization	Fluid Reasoning	Raw Scores Subtest	Growth Scale Value	Growth Scale SEM	Growth Confidence Interval	Age Equivalent	Scale Names
Figure Ground (FG)					FG =			—		FG
Form Completion (FC)					FC =			—		FC
Sequential Order (SO)					SO =			—		SO
Repeated Patterns (RP)				①* ②	RP =			—		RP
Sum of Raw Scores					Sum of Raw Scores for					
					Fluid Reasoning			—		Fluid Reasoning
					Visualization			—		Visualization
					S-BIT IQ			—		S-BIT IQ

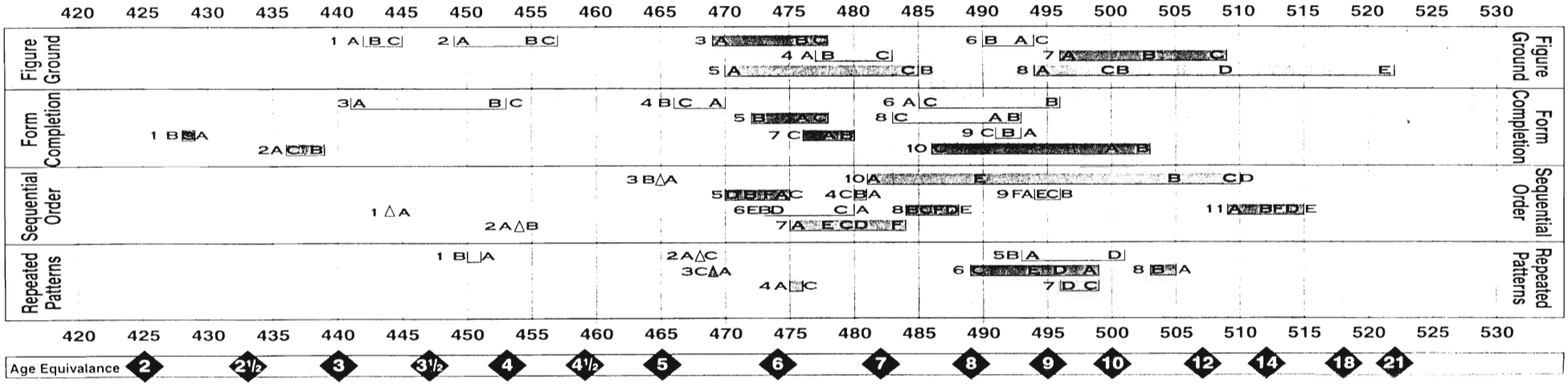
*Enter RP Score twice in this area

Profile of Growth Scale Scores with Age Equivalents

STEP 5



S-BIT Growth Scale Item Map



Subtest 1 — Figure Ground (FG)

Stop Rule: Discontinue after 6 cumulative errors

Materials: Easel Book; FG cards

Scoring: 1 point for each correct response

Item	Description/Cues	Card	Score
FG 1 Ⓣ	Lemon on sign	A	
	Boy's shirt	B	
	Two lemons on table	C	
FG 2	Brush on floor	A	
	Faucet	B	
	Plant held by man	C	
FG 3	Boy's smile	A	
	African-American boy's shoe	B	
	Blond girl's hair bow	C	
FG 4	Clown's pink hat	A	
	Doll's orange apron	B	
	Clown's checkered vest	C	
FG 5	Upside down house on book	A	
	Doll on top of dresser	B	
	Bed Wheel	C	

Item	Description/Cues	Card	Score
FG 6	Leaves of plant	A	
	Shoulder pad on guitar strap	B	
	Chair leg	C	
FG 7	Wave in pool	A	
	Man's swimming suit	B	
	Man's collar	C	
FG 8	Railing on red building	A	
	Door on red & white truck	B	
	Opening at orange curtains	C	
	Door on orange truck	D	
	End of awning	E	

FG Raw Score (Max = 26) →	

Examiner's Notes and Observations:

Ⓣ = Training is indicated on this item.

Growth Scale Conversion Table

Subtest 1—Figure Ground

SCORING TABLE

Encircle entire row for the raw score

Raw Score	Growth Scale Value	Growth SEM
0	430	13
1	436	10
2	442	8
3	447	7
4	452	7
5	456	6
6	460	6
7	464	6
8	468	6
9	471	5
10	474	5
11	477	5
12	480	5
13	483	5
14	485	5
15	488	5
16	490	5
17	493	5
18	496	5
19	498	5
20	501	5
21	505	6
22	508	6
23	513	7
24	518	8
25	526	10
26	536	12

Subtest 2 — Form Completion (FC)

Stop Rule: Discontinue testing after 7 cumulative errors

Materials: Easel Book; FC cards

Scoring: 1 point for each correct response

Item	Description/Cues	Card	Score
FC 1 Ⓣ	Soccer ball	A	
	Sun	B	
	Beach ball	C	
FC 2	Sheep	A	
	Cow	B	
	Horse	C	
FC 3	Dog	A	
	Man	B	
	Present	C	

Item	Description/Cues	Circle Correct Responses (L EXAMINER'S R) 1 2 3 4 5 6 7	↓
FC 4	Boxes of boxes	– B C A	
FC 5	Arrow - arch - pointer	– C B A	
FC 6	3, 4, and 5 pieces	B – A C	
FC 7	4 Shapes - Part A	A B – – C	
FC 8	4 Shapes - Part B	B C A – –	
FC 9	"Worlds" of fun	– A – C B	
FC 10	Making shapes	– – B A C	

FC Raw Score (Max = 30) →

Ⓣ = Training is indicated on this item.

Growth Scale Conversion Table

Subtest 2—Form Completion

SCORING TABLE

Encircle entire row for the raw score

Raw Score	Growth Scale Value	Growth SEM
0	416	12
1	426	10
2	433	8
3	436	7
4	439	6
5	442	6
6	446	6
7	449	6
8	453	6
9	456	6
10	460	6
11	463	5
12	466	5
13	469	5
14	472	5
15	474	5
16	476	5
17	479	5
18	481	4
19	483	4
20	485	4
21	487	5
22	490	5
23	492	5
24	495	5
25	497	5
26	500	5
27	504	6
28	509	7
29	516	10
30	526	13

Examiner's Notes and Observations:

Subtest 3 Sequential Order (SO)

Stop Rule: Discontinue testing after 7 cumulative errors

Materials: Easel Book; SO cards

Scoring: 1 point for each correct response

Item	Description/Cues	Circle Correct Responses (L EXAMINER'S R) 1	2	3	4	5	6	7	Score
SO 1 Ⓣ	Small cat *[B]					A	–	–	
SO 2	Circles				A	B	–	–	
SO 3	Shadow in square			B	A	–	–	–	
SO 4	Sun and Cloud	–	B	C	A	–	–	–	
SO 5	Concentric circles [E]	–	C	A	F	B	D	–	
SO 6	Sunbursts [C]	–	F	A	B	E	D	–	
SO 7	Circle Segments [B]	–	D	F	C	E	A	–	
SO 8	Maze [A]	C	E	B	D	F	–	–	
SO 9	Two lines - moving [D]	B	C	A	E	F	–	–	
SO 10	Squares and circles [F]	C	D	B	E	A	–	–	
SO 11	Sides and Spaces [C]	B	F	E	A	D	–	–	

SO Raw Score (Max = 43) →	

Examiner's Notes and Observations:

Ⓣ = Training or teaching may be indicated on this item.

*[ ] = Letters within brackets denote response cards which are distractors for this item.

Growth Scale Conversion Table

Subtest 3—Sequential Order

SCORING TABLE

Encircle entire row for the raw score

Raw Score	Growth Scale Value	Growth SEM
0	437	13
1	443	10
2	448	7
3	452	6
4	455	6
5	458	5
6	460	5
7	462	4
8	464	4
9	466	4
10	468	4
11	470	4
12	471	4
13	473	4
14	474	4
15	475	4
16	477	3
17	478	3
18	479	3
19	481	3
20	482	3
21	483	3
22	485	3
23	486	3
24	487	4
25	489	4
26	490	4
27	491	4
28	493	4
29	494	4
30	496	4
31	498	4
32	499	4
33	501	4
34	503	4
35	505	4
36	508	5
37	510	5
38	513	5
39	516	5
40	519	6
41	524	7
42	531	10
43	541	13

Subtest 4 Repeated Patterns (RP)

Stop Rule: Discontinue testing after 6 cumulative errors

Materials: Easel Book; RP cards

Scoring: 1 point for each correct response

Item	Description/Cues	Circle Correct Responses (L EXAMINER'S R) 1	2	3	4	5	6	7	Score
RP 1 Ⓣ	Apple Banana *[C]	A	B	–	–	–	–	–	
RP 2	X O Pattern [B,D]	C	A	–	–	–	–	–	
RP 3	Car Boat [B]	C	A	–	–	–	–	–	
RP 4	0+- T+- Pattern [B,D]	A	C	–	–	–	–	–	
RP 5	Clock, Diamonds [C,E]			D	B	A	–	–	
RP 6	Star, Asterisk,... [B]			A	D	C	E	–	
RP 7	S Patterns [A,B]				C	–	D	–	
RP 8	+00+ Patterns [C,D]				A	–	B	–	

RP Raw Score (Max = 19) →	

Growth Scale Conversion Table

Subtest 4—Repeated Patterns

SCORING TABLE

Encircle entire row for the raw score

Raw Score	Growth Scale Value	Growth SEM	Raw Score	Growth Scale Value	Growth SEM
0	444	12	10	488	5
1	452	10	11	491	5
2	459	8	12	494	5
3	466	7	13	497	5
4	469	7	14	500	5
5	472	6	15	503	6
6	475	6	16	507	6
7	476	6	17	512	7
8	482	6	18	519	10
9	485	6	19	529	13

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Stoelting Brief Nonverbal Intelligence Test

EXAMINER RATING SCALE

Instructions for Examiner Rating Scale

Review in your mind the subject's behaviors during testing. Circle a single number indicating the *frequency* of the subject's behavior on each item using the following scale:

0 = Rarely or never 1 = Sometimes 2 = Often 3 = Usually or Always

Complete Sections A through D on this page. Calculate the Raw Score for each section by totaling the points for the items circled in that section. Continue to the next page and complete Sections E though H. You may also add additional comments if desired.

Rarely/Never Sometimes Often Usually/Always	**A. ATTENTION**
0 1 2 3	Pays attention to details within tasks
0 1 2 3	Pays attention during instructions and demonstrations
0 1 2 3	Careful, interested in accuracy; not careless
0 1 2 3	Sustains concentration; willing to try repetitive tasks
0 1 2 3	Stays on task, with minimal reinforcement
0 1 2 3	Interested in present task more than in starting next task
0 1 2 3	Recalls information; does not forget details from Teaching Trials
0 1 2 3	Focuses on task; e.g. does not daydream during assessment
0 1 2 3	Directed to task despite external noises and sights
0 1 2 3	Persists; body sensations do not interfere with performance
☐	**A. ATTENTION RAW SCORE**

Rarely/Never Sometimes Often Usually/Always	**B. ORGANIZATION/IMPULSE CONTROL**
0 1 2 3	Thinks and plans before beginning
0 1 2 3	Indicates/asks if does not understand directions/procedures
0 1 2 3	Does activities in an efficient order; organized
0 1 2 3	Inhibits verbalizations appropriately; does not "blurt-out"
0 1 2 3	Lets examiner finish before starting task, does not interrupt
0 1 2 3	Refrains from indiscriminately touching test materials
0 1 2 3	Independently completes activities w/o constant structuring
0 1 2 3	Independently begins tasks; no extra assistance needed to begin
☐	**B. ORGANIZATION/IMPULSE CONTROL RAW SCORE**

Rarely/Never Sometimes Often Usually/Always	**C. ACTIVITY LEVEL**
0 1 2 3	Focuses without fidgeting, restlessness, or gazing elsewhere
0 1 2 3	Remains in seat appropriately during test; does not climb, open closets, grab objects
0 1 2 3	Maintains appropriate activity level; no increase in movement as novelty of task wears off, or between subtests
0 1 2 3	Needs minimal reinforcement to sit still
☐	**C. ACTIVITY LEVEL RAW SCORE**

Rarely/Never Sometimes Often Usually/Always	**D. SOCIABILITY**
0 1 2 3	Interacts positively; not quarrelsome, whiney, or sarcastic
0 1 2 3	Alert and interactive; is not withdrawn
0 1 2 3	Cooperates; complies with examiner's requests
0 1 2 3	Friendly; not hostile, angry or defiant
0 1 2 3	Responsible with objects/materials; not careless or destructive
☐	**D. SOCIABILITY RAW SCORE**

Continued on next page

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EXAMINER RATING SCALE (CONTINUED)

Rarely/Never Sometimes Often Usually/Always

E. ENERGY AND FEELINGS

0 1 2 3	Shows pleasure in accomplishment and active task mastery
0 1 2 3	Energetic; age appropriate fatigue during test session; not lethargic
0 1 2 3	Positive or neutral statements regarding performance
0 1 2 3	Confident; no reproaching or guilt-ridden behaviors
0 1 2 3	Happy and content with self; does not appear melancholy or sad
0 1 2 3	Reacts with appropriate range and intensity of emotions

☐ **E. ENERGY AND FEELINGS RAW SCORE**

Rarely/Never Sometimes Often Usually/Always

F. MOOD AND REGULATION

0 1 2 3	Modulates thoughts; not inundated by unrelated ideas
0 1 2 3	No unrelated or bizarre responses
0 1 2 3	Realistic; not self-aggrandizing or overly pretentious
0 1 2 3	Stable disposition; no liability or mood swings
0 1 2 3	Regulated state; not over-aroused or over-reactive
0 1 2 3	Normal behaviors observed (e.g. no picking, twirling objects, twisting hair, fidgeting with jewelry in an excessive manner)

☐ **F. MOOD AND REGULATION RAW SCORE**

Rarely/Never Sometimes Often Usually/Always

G. ANXIETY

0 1 2 3	Assured; not apprehensive or worried during session
0 1 2 3	Composed; not overwhelmed or rattled
0 1 2 3	Regulated approach; not obsessive or compulsive about details
0 1 2 3	Calm; not agitated or jittery in session
0 1 2 3	Persists with difficult tasks; recognizes limits appropriately
0 1 2 3	Tolerant; not irritated or annoyed with test tasks

☐ **G. ANXIETY RAW SCORE**

Rarely/Never Sometimes Often Usually/Always

H. SENSORY REACTIVITY

0 1 2 3	Normal reactions to outside noises, not oversensitive to sounds
0 1 2 3	Concentrates; not distracted by visual stimuli
0 1 2 3	Adapts during transitions between tasks
0 1 2 3	Modulates and regulates arousal level in self

☐ **H. SENSORY REACTIVITY RAW SCORE**

Calculate and profile the Examiner Rating Subscales and Composites on the next page.

SEVERE BEHAVIORS

[Check box only if this applies to subject]

- ☐ Stereotypical, perseverative, or autistic-like behaviors
- ☐ Bizarre communications or preoccupations
- ☐ Odd verbalizations or sounds
- ☐ Impaired non-verbal communication, i.e. no eye contact
- ☐ Thought processes are peculiar, illogical and tangential
- ☐ Delusions or hallucinations are communicated
- ☐ Paranoid; preoccupied with persecution

ADDITIONAL COMMENTS

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EXAMINER RATING SCALE
Profile/Record Form

Examiner Rating Scale Cognitive/Social Composite			
Subscale	**Raw Scores**	**Scaled Scores Go to Appendix D**	
A. Attention		→	
B. Organization/Impulse Control		→	
C. Activity Level		→	
D. Socialability		→	
Sum of Raw Scores for the Cognitive/Social Composite (Subscales, A thru D)	↓		
Standard Score for the Cognitive/Social Composite (See Appendix E)	↓		

Step 1: Calculate Raw Scores for each subscale (A thru H) on previous pages. Record Raw Scores in Subscale areas as appropriate.

Step 2: Go to Appendix D and convert Subscale Raw Scores to Subscale Scaled Scores.

Step 3: Sum Subscale Raw Scores to find appropriate Composite Raw Scores. Go to Appendix E to convert Composite Raw Scores to Standard Scores.

Step 4: Profile the Subscale Scaled Scores and Composite Standard Scores on the graphs below.

Examiner Rating Scale Emotion/Regulation Composite			
Subscale	**Raw Scores**	**Scaled Scores Go to Appendix D**	
E. Energy & Feelings		→	
F. Mood & Regulation		→	
G. Anxiety		→	
H. Sensory Reactivity		→	
Sum of Raw Scores for the Emotions/Regulations Composite (Subscales, E thru H)	↓		
Standard Score for the- Emotions/Regulations Composite (See Appendix E)	↓		

Profile of Subscale Scores
Examiner Rating Scale

	A Attn.	B. Org.	C. Act.	D. Soc.	E. Ener.	F. Mood	G. Anx.	H. Sens.	
10	•	•	•	•	•	•	•	•	10
9	•	•	•	•	•	•	•	•	9
8	•	•	•	•	•	•	•	•	8
7	•	•	•	•	•	•	•	•	7
6	•	•	•	•	•	•	•	•	6
5	•	•	•	•	•	•	•	•	5
4	•	•	•	•	•	•	•	•	4
3	•	•	•	•	•	•	•	•	3
2	•	•	•	•	•	•	•	•	2
1	•	•	•	•	•	•	•	•	1

Examiner Ratings Standard Scores for Composites		40	50	60	70	80	90	100	110	120	130	140	150	160
	Cognitive/Social													
	Emotions/Regulation													
		40	50	60	70	80	90	100	110	120	130	140	150	160

Appendix D

Informed Consent Form for Sex Education Participants

Brock University Department of Education

Informed Consent Form

Title of Study: Sex Education for Individuals who have a Developmental Disability: The Need for Assessment

Researchers: Shelley Watson and Dr. Dorothy Griffiths

Name of Participant: _____(Please print)

I understand that this study in which I have agreed to participant will involve participating in a sexuality education class over a 6-week period. I will also be asked to answer questions about my knowledge and attitudes toward sexuality.

I understand that my participation in this study is voluntary and that I may withdraw from the study at any time and for any reasons without penalty.

I understand that there is no obligation to answer any question or participate in any aspect of this project that I consider being uncomfortable.

I understand that all personal information will be kept strictly confidential and private and that all information will be coded so that my name is not associated with my answers. I understand that only the researchers named above will have access to the information.

Participant Signature_____ Date_____

If you have any questions or concerns about your participation in the study, you can contact Shelley Watson at (905) 685-8145 or Dorothy Griffiths at (905) 688-5550.

Thank you for your help. Please take one copy of this form with you for further reference.

I have fully explained the procedures of this study to the above volunteer.

Researcher Signature: _____ Date_____

Appendix E

Informed Consent Form for Control Group Participants

Brock University Department of Education

Informed Consent Form

Title of Study: Sex Education for Individuals who have a Developmental Disability: The Need for Assessment

Researchers: Shelley Watson and Dr. Dorothy Griffiths

Name of Participant: _____(Please print)

I understand that this study in which I have agreed to participant will involve responding to a questionnaire about my knowledge and attitudes regarding sexuality. I will also be given another test to determine my IQ.

I understand that my participation in this study is voluntary and that I may withdraw from the study at any time and for any reasons without penalty.

I understand that there is no obligation to answer any question or participate in any aspect of this project that I consider being uncomfortable.

I understand that all personal information will be kept strictly confidential and private I understand that only the researchers named above will have access to the information.

Participant Signature_____ Date_____

If you have any questions or concerns about your participation in the study, you can contact Shelley Watson at (905) 685-8145 or Dorothy Griffiths at (905) 688-5550.

Thank you for your help. Please take one copy of this form with you for further reference.

I have fully explained the procedures of this study to the above volunteer.

Researcher Signature: _____ Date_____